November 7, 1980
FOUR DOLLARS

Serving the Farm and Industrial Equipment Industry Since 1886

Implement&Tractor

11/13/80 C4725-1 U

20014 056 720 0001 10/01 A011
0 03
CONGRESSIONAL INFO
SERVICE INC/SRI
7101 WISCONSIN AVE
BETHESDA MD 20014

IMPLEMENT & TRACTOR
Editorial, advertising
and circulation correspondence
should be addressed to:
9221 Quivira Rd.
P.O. Box 12901
Overland Park, Kan. 66212
(a suburb of Kansas City, Mo.)
Telephone (913) 888-4664
Telex: 42-4156; Answerback
Intertec OLPK

EDITORIAL
Bill Fogarty, Editor
Jack Root, Managing Editor
Charles G. Ewing, Editor, Red Book
Pat Blanton, Editor, Product File
Dudley Rose, Senior Art Director
Anita Blattner, Art Director
Irma Allread, Editorial Assistant

Contributing Editors:
Paul Crisford, Britain and Europe
Frank Buckingham, Agricultural Engineering
Melvin E. Long,
Engineering and Production Topics

CIRCULATION
John Arnst, Director
Evelyn Rogers, Manager

☆ABP A member of
American Business Press

ABC A member of
Audit Bureau of Circulations

ADVERTISING
Lou Bray, Production
(Regional advertising sales offices
listed on ad index page.)

ADMINISTRATION
R. J. Hancock, President
Edward F. Mickells, Publisher

IMPLEMENT & TRACTOR (USPS 461-750), with which is combined Farm Implement News, is published twice monthly except in January and March, when third issues are published, and in July and December, when one issue only is published, by INTERTEC PUBLISHING CORP., 9221 Quivira Rd., Overland Park, Ks. 66215 (a suburb of Kansas City, Mo.).

Subscription information: Implement & Tractor is edited for persons in the farm and industrial equipment industry who function in the areas of retail sales and service, distribution sales and service, marketing, engineering, financing, manufacturing and general management. Subscription prices to qualified subscribers: U.S. and Canada, one year—$10, two years—$15; elsewhere, one year—$13; two years—$21. Subscription prices to all others: U.S. and Canada, one year—$30; two years—$60; elsewhere, one year—$35, two years—$70. Single copies, $2, except Annual Statistical Number, $4; Product File issue, $5; Red Book issue, $5. Adjustment necessitated by subscription termination at single copy rate. Extra charges for service on back issues. Allow 6-8 weeks for change of address and new subscriptions.

INTERTEC PUBLISHING CORP.

November 7, 1980 • Vol. 95 • No. 22

Implement & Tractor

The Business Magazine of the Farm and Industrial Equipment Industry

43rd ANNUAL STATISTICS ISSUE

6: Introduction

Exports and Imports
8: Wheel Tractor Imports by Horsepower, Value and Country of Origin, Jan.-June, 1979; Jan.-Dec., 1979; Jan.-June, 1980
10: Imports by Value and Country of Origin, 1976, 1977, 1978, 1979, Jan.-June, 1980
12: Imports of Farm Equipment by Product, 1978, 1979, Jan.-June, 1980
16: Value and Destination of Farm Equipment Exports, 1979
17: Value and Destination of Farm Equipment Exports, Jan.-June, 1980
18: Farm Equipment Exports by Type of Product, 1978, 1979, Jan.-June, 1980

Machines on Farms—1980
20: Is Farm Tractor Population Increasing? Not actually, but new methods used by Bureau of Census produce a higher count of tractors on farms in partial data from the 1978 Census of Agriculture.
22: Motor Vehicles and Specified Machines on Farms, 1925-1980
24: Principal Machines on Farms

Retail Sales
36: Retail Sales of Farm Wheel Tractors by PTO Horsepower and State, 1979
38: Retail Sales of Selected Farm Equipment, 1978-1979
40: Retail Sales of Wheel Tractors, Jan.-July, 1980
42: Retail Sales of Selected Farm Equipment, Jan.-July, 1980

Farm Equipment Production and Shipments
44: Production of Tractors, 1936-1979
46: Value of Shipments, 1974-1978

DEPARTMENTS

What's Ahead 4
Retail Sales of Wheel Tractors 10
Retail Sales of Selected Farm Equipment 42
What's New 47
Industry in Motion 63
New Literature 63
News Briefs 64
Farm Equipment Patents ..66
Classified Ads 66
Index to Advertisers 68

Controlled circulation postage paid at Shawnee Mission, Ks. 66201.
Postmaster: Return Form 3579 to Implement & Tractor, P.O. Box 12901, Overland Park, Ks. 66212.

©Copyright, 1980, INTERTEC PUBLISHING CORP. All rights reserved. Material may not be reproduced or photocopied in any form without written permission of publisher.

43rd annual

I&T MARKET STATISTICS ISSUE

Want some good news?

U.S. FARM EQUIPMENT EXPORTS SHOW STRENGTH, INDUSTRY TRADE BALANCE IMPROVES

■TO OPEN our Statistics Issue for 1980, a year that has not given the U.S. farm equipment industry much to cheer about, we thought we'd like to have some upbeat information to impart. We found it with receipt of first-half, 1980, import and export statistics from the Dept. of Commerce.

Briefly, U.S. exports were up 16 per cent in the first half of 1980 to $1.313 billion, compared with 1979's first six months. This continued the strong level of increase established in 1979—it also indicated that there may be a reversal in the trend of yearly declines in the favorable balance of trade experienced by the U.S. farm equipment industry.

In 1976, the U.S. had a favorable farm equipment trade balance of $537 million over imports. But exports didn't expand over the next two years, while imports increased substantially. Last year, exports jumped $604 million, but imports outdistanced them, rising $698 million.

This year, imports for the first six months were $1.128 billion and exports were $1.313 billion; the favorable balance was a solid $185 million. Here's the story in tabular form:

U.S. Farm Equipment Industry—Foreign Trade
(dollar volume in thousands)

Year	Exports	Imports	Balance
1976	$1,586,200	$1,049,405	+$536,795
1977	1,561,800	1,157,560	+404,240
1978	1,583,285	1,182,758	+400,527
1979	2,187,420	1,880,470	+306,950
1980 (Jan.-June)	1,313,177	1,127,756	+185,421

Source: U.S. Dept. of Commerce, Bureau of Industrial Economics

What caused the shift? In our opinion, a major factor has been the slowdown in 1980 of under-40-horsepower tractor imports from Japan, coupled with improved export sales to Australia, Latin America and other principal markets.

In the first half of last year, tractor imports from Japan were valued at $112 million; in the first half of 1980, they came to $104 million. Meanwhile, American sales of farm equipment to several key markets were up beyond inflation-caused increases: to Mexico—up 21 per cent to $124 million; to Venezuela, up 27 per cent to $34 million; to Argentina—up 168 per cent to $21 million; to Australia—up 47 per cent to $92 million; to South Africa—more than double to $22 million.

Tractors and tractor parts are the main product concerns of the U.S. farm equipment industry, both with regard to imports and exports. In the first half of 1980, we imported almost 57,000 tractors valued at $379 million and parts worth $217 million. We exported 16,687 units valued at $337 million, with parts value coming to $361 million.

Other Statistical Issue features

To pull together data for the farm equipment industry, I&T is dependent on several offices of the United States Dept. of Commerce. From the Bureau of Industrial Economics comes information about exports and imports. The Bureau of the Census provides data on shipments of farm machines and equipment from its Current Industrial Reports, and on equipment on farms from its Census of Agriculture.

Unfortunately, the Census Bureau has been caught up, we've been informed, in the 1980 Census of Population, and this has delayed several other things. At closing time for this issue, I&T was informed that the Current Industrial Reports we need for 1979 industry shipments data were still several weeks away. So we have to promise that you will see these tables in a later issue.

And at presstime, the Census of Agriculture has come out with preliminary reports on something over half of the states. There's an article in this issue carrying a look at what tractor-related data is available from the reports we've received. Again, we'll have to promise more in a later issue. □

NEW AGRICULTURAL WHEEL TRACTOR IMPORTS, JAN.-JUNE, 1979

(Excludes garden tractors except as indicated in headings, footnotes.)
Number of units/Value in thousands of dollars

Nation of Origin	Under 20 HP*	20-29 HP*	30-39 HP*	40-79 HP*	80-99 HP*	100 HP and Over*	HP Not Specifically Provided*
Canada	9/$29	12/$30	66/$271	302/$5,079	179/$5,247	445/$15,563	748/$33,000
United Kingdom		109/617	237/1,304	3,219/25,930	2,585/17,821	24/195	90/641
Belgium	1/7		3/20	23/224			12/156
West Germany	1/4		25/178	4,333/38,190	1,454/18,418	1,170/18,454	275/3,291
Italy	72/313	168/583	81/304	818/6,607	178/2,162	3/63	11/73
Rumania	242/1,112		685/1,271	1,287/3,013			7/67
Spain				64/506			14/94
U.S.S.R.		50/59					
Japan	10,976/27,892	12,035/40,144	10,557/33,909	701/5,318		347/670	505/1,308
Others				15/247		1/30	
TOTALS	**11,301/$29,358**	**12,374/$41,434**	**11,654/$37,258**	**10,762/$85,114**	**4,396/$43,647**	**1,990/$34,976**	**1,662/$38,627**

Source: U. S. Dept. of Commerce, Industry & Trade Administration.
*Excluding garden tractors. **Including garden tractors. The term "industrial" here is understood to refer to such machines as fork-lifts, but not industrial tractors as defined in the farm and industrial equipment industry.

NEW AGRICULTURAL WHEEL TRACTOR IMPORTS, JAN.-DEC., 1979

(Excludes garden tractors except as indicated in headings, footnotes.)
Number of units/Value in thousands of dollars

Nation of Origin	Under 20 HP*	20-29 HP*	30-39 HP*	40-79 HP*	80-99 HP*	100 HP and Over*	HP Not Specifically Provided*
Canada	21/$41	48/$96	144/$681	625/$11,979	345/$10,178	821/$29,358	1,579/$72,459
United Kingdom	19/132	242/1,310	330/1,820	7,997/66,026	3,611/26,386	24/195	92/667
Belgium	1/7	.....	10/69	87/827	1/19	1/69	12/155
France	.....	36/111	.....	34/1,731	2/63	.....	.....
West Germany	23/51	.....	25/178	9,125/82,337	2,416/30,017	1,281/21,059	320/3,884
Italy	234/1,649	519/1,868	103/382	1,033/8,734	219/2,500	14/325	26/230
Rumania	580/2,709	5/8	813/1,547	2,477/6,264	.....	2/22	8/80
Spain	.....	320/347	75/482	150/1,080	.....	.....	19/128
U.S.S.R.	.....	50/59	.....	158/544	.....	5/73	.....
Japan	17,480/44,088	26,856/89,370	16,435/57,383	2,876/21,635	6/59	350/760	526/1,434
Others	72/169	.....	2/18	39/342	.....	1/30	1/8
TOTALS	**18,430/$48,846**	**28,076/$93,189**	**17,937/$62,560**	**24,601/$201,499**	**6,600/$69,218**	**2,499/$51,891**	**2,583/$79,045**

Source: U.S. Dept. of Commerce, Industry & Trade Administration.
*Excluding garden tractors. **Including garden tractors. The term "industrial" here is understood to refer to such machines as fork-lifts, but not industrial tractors as defined in the farm and industrial equipment industry.

NEW AGRICULTURAL WHEEL TRACTOR IMPORTS, JAN.-JUNE, 1980

Number of units/Value in thousands of dollars

Nation of Origin	Under 20 HP*	20-29 HP*	30-39 HP*	40-79 HP*	80-99 HP*	100 HP and Over*	HP Not Specifically Provided*
Canada	9/$42	9/$25	63/$423	126/$3,628	114/$3,658	418/$15,718	898/$47,528
Italy	18/61	29/103	89/375	1,239/8,355	33/494	148/2,369	9/95
United Kingdom	8/6	106/721	368/2,559	4,994/45,636	1,666/17,851	27/641	53/449
West Germany	10/12	.....	91/1,989	5,050/54,472	2,139/30,162	525/13,995	4/89
Japan	12,028/29,038	10,980/37,309	4,948/23,552	1,511/11,548	5/36	2/31	34/241
Romania	.....	1,041/2,144	640/1,455	1,950/5,937	.....	.....	.....
U.S.S.R.	.....	1/2	.....	347/1,022	.....	.....	.....
Poland	.....	.....	1/6	54/429	103/584	47/525	.....
Others	4/32	62/338	11/499	77/1,241	1/13	3/69	2/38
TOTALS	**12,077/$29,193**	**12,228/$40,642**	**6,211/$30,859**	**15,348/$132,268**	**4,061/$52,798**	**1,170/$33,350**	**1000/$48,440**

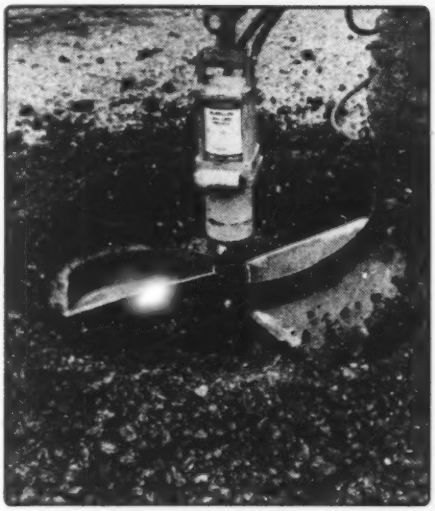
Source: U.S. Dept. of Commerce, Bureau of Industrial Economics
*Excluding garden tractors.

ot Elsewhere ecified, Ex- uding Industrial, cluding Garden pes**	Totals	
299/$4,183	2,060/$63,407	Canada
984/7,434	7,248/53,942	United Kingdom
	39/407	Belgium
127/1,512	7,385/80,047	West Germany
297/2,573	1,628/12,678	Italy
2/22	2,223/5,495	Rumania
27/242	105/842	Spain
12/103	62/162	U.S.S.R.
2,031/2,714	37,152/111,955	Japan
82/47	98/324	Others
3,861/$18,834	58,000/$329,248	TOTALS

Not Elsewhere Specified, Ex- uding Industrial, cluding Garden Types**	Totals	
461/$8,224	4,044/$133,016	Canada
1,290/9,519	13,605/106,055	United Kingdom
1/6	113/1,152	Belgium
2/42	74/1,947	France
587/9,058	13,777/146,584	West Germany
871/6,467	3,019/22,155	Italy
2/22	3,887/10,652	Rumania
31/288	595/2,325	Spain
158/577	371/1,253	U.S.S.R.
4,534/5,144	69,063/219,893	Japan
105/326	220/893	Others
8,042/$39,673	108,768/$845,925	TOTALS

ot Elsewhere cified, Includ- Garden, Roto- tiller Type	Totals	
156/$1,872	1,793/$72,894	Canada
358/2,386	1,923/14,238	Italy
29/189	7,251/68,052	United Kingdom
200/3,552	8,019/104,271	West Germany
3,884/2,512	33,392/104,267	Japan
15/71	3,646/9,607	Romania
.....	348/1,024	U.S.S.R.
.....	205/1,544	Poland
115/512	275/2,742	Others
57/$11,094	56,852/$378,644	TOTALS

The McMillen Hole Top Sweep



- **Cleans dirt away from hole, top to bottom.**
- **Eliminates cleanup labor and costs.**

Soil, rock, and other debris are moved away from hole top as you dig, in a 24" or 36" diameter pattern, or completely dispersed. Cleaning is eliminated. Hole is ready for pole or concrete as soon as auger is withdrawn. Mounts in seconds. Fits all McMillen Augers, and other competitive brands.

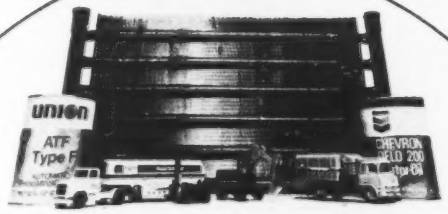
Ask for free Hole Top Sweep literature. And also inquire about McMillen's full line of hydraulic diggers, augers, and accessories for all types of vehicles.

THE McMILLEN DIVISION OF STATES ENGINEERING CORPORATION
4419 Ardmore Avenue • Fort Wayne, IN 46809 • Telephone: (219) 747-6195
Call toll free: (800) 348-0964 • In Indiana call collect: (219) 747-6195

FIA

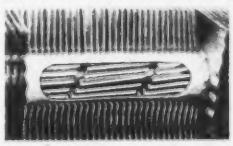
Circle (5) on Reply Card

Want to increase the life of oil and equipment?



Dunham-Bush shows you how

Want to extend the life of lubricated and hydraulically driven components and double the life of the oil itself? The easiest way is with a Dunham-Bush heat exchanger. Every 20°F drop in fluid temperature does it all, and Dunham-Bush has the proven fluid coolers that deliver predictable results. For new equipment or for retrofit applications, Dunham-Bush has the application engineers who earned us the title, the oil cooling experts. Call and let us prove it.



Dunham-Bush
The oil cooling experts

1850 Massachusetts Avenue • Riverside, Calif. 92507 • 714-684-0991
See us at the SAE Off-Highway Show, Booth 834

©Copyright Dunham-Bush, Inc., 1980 one of The Signal Companies

Circle (6) on Reply Card

DOLLAR VALUE OF FARM EQUIPMENT
IMPORTS BY COUNTRY OF ORIGIN, Jan., 1976-June, 1980
(In thousands)

Country	Jan.-Dec. 1976	Jan.-Dec. 1977	Jan.-Dec. 1978	Jan.-Dec. 1979	Jan.-June 1980
Canada	$601,760	$619,662	$506,728	$831,155	$545,640
Mexico	7,300	8,363	6,277	10,082	5,410
Brazil	NA*	NA*	2,194	892	510
Sweden	941	2,077	1,708	4,818	2,229
Norway	1,666	1,751	1,075	1,273	909
Denmark	4,931	4,054	4,513	7,158	3,834
Netherlands	13,638	13,560	12,690	16,942	10,806
United Kingdom	102,208	110,071	125,241	209,967	121,719
Belgium	75,979	78,191	66,347	93,709	35,854
France	36,386	36,715	36,351	62,294	40,366
West Germany	90,139	118,861	141,392	231,521	147,484
Austria	2,255	1,219	783	1,188	676
Hungary	6,978	4,474	4,673	10,727	5,953
U.S.S.R.	1,806	1,415	1,113	2,715	1,127
Poland	582	3,705	1,746	1,346	2,551
Romania	10,029	10,451	8,372	11,648	9,870
Italy	32,077	50,246	75,066	78,523	52,441
Spain	4,614	4,326	3,768	9,239	3,189
Israel	882	940	1,545	2,616	2,032
New Zealand	1,396	2,525	1,918	5,312	3,684
Australia	4,988	3,642	3,218	5,937	2,283
Japan	39,360	73,861	167,858	267,599	121,945
China (Taiwan)	NA*	1,273	1,446	1,916	819
South Africa	NA*	3,830	3,972	6,332	3,229
Others	9,490	2,347	2,762	5,561	3,196
TOTAL	**$1,049,405**	**$1,157,560**	**$1,182,758**	**$1,880,470**	**$1,127,756**

SOURCE: U.S. Dept. of Commerce, Industry & Trade Administration.
*Data not available, included with "others."

THE RAINBOW PROMISE:

RAIN

IN THE RIGHT PLACE AT THE RIGHT TIME.

Ask your Rainbow Dealer about the full line of Rainbow Irrigation Systems including the famous Rainbow center pivots and travelers, plus a complete stock of components—pumps, pipes, and fittings.

Rainbow Irrigation Systems

WITH EVERY RAINBOW COMES A PROMISE

P.O. Box 70, Fitzgerald, Ga. 31750, USA
Telephone: 912/423-4341 Cable: "RAINBO" Telex: 804501

Circle (7) on Reply Card

IMPORTS OF FARM EQUIPMENT BY PRODUCT

Product	Jan.-Dec., 1978 Quantity	Jan.-Dec., 1978 Value in Thousands of Dollars	Jan.-Dec., 1979 Quantity	Jan.-Dec., 1979 Value in Thousands of Dollars	Jan.-June, 1980 Quantity	Jan.-June, 1980 Value in Thousands of Dollars
Knives & Cutting Blades	6,864,882	$ 4,905	7,030,211	$ 4,926	5,531,604	$ 7,158
Plows & Listers	6,847	9,142	20,971	11,620	5,707	9,330
Cultivators & Weeders	13,95[illegible]	18,356	22,026	31,345	13,214	19,312
Parts of Plows, Cultivators, Weeders & Listers	....	23,501	.....	30,534	.....	18,160
Harrows, Rollers, Stalk Cutters, Soil Pulverizers	48,977	8,580	29,416	8,322	13,585	7,456
Parts of Harrows, Rollers, Stalk Cutters, etc.	.....	NA	.....	15,538	.....	10,824
Planting, Seeding & Fertilizing Machinery	46,919	39,634	32,080	43,253	17,606	29,783
Parts of Planting, Seeding & Fertilizing Machinery	.....	NA	.....	14,685	.....	8,604
Haying Machinery other than Mowers	6,582	8,464	9,749	15,655	7,968	22,830
Mowers except Lawn Mowers	11,581	13,450	18,641	20,600	11,128	16,919
Harvesting Machines, NES	22,382	226,333	17,623	282,895	11,323	212,285
Parts of Harvesting Machines	.....	NA	.....	113,999	.....	59,515
Farm Wagons & Carts	10,546	9,304	11,900	10,559	6,857	8,268
Agricultural Machines & Implements, NES	.....	62,436	.....	102,254	.....	50,216
Parts of Agricultural Machines, NES	.....	131,725	.....	72,262	.....	38,314
Tractors, Agricultural, Wheel-Type, New, excluding Industrial*	92,049	448,216	108,787	645,952	56,852	378,644
Tractors, Agri., Used	4,284	23,435	4,132	25,740	1,616	10,155
Parts for Agri. Tractors	.....	307,704	.....	451,981	.....	216,914

SOURCE: U.S. Dept. of Commerce, Bureau of Industrial Economics.
NES—Not elsewhere specified. NA—Not available.
*Use of the term "industrial" here is understood to refer to such machines as fork-lifts but not to industrial tractors as commonly defined in the farm and industrial equipment industry.

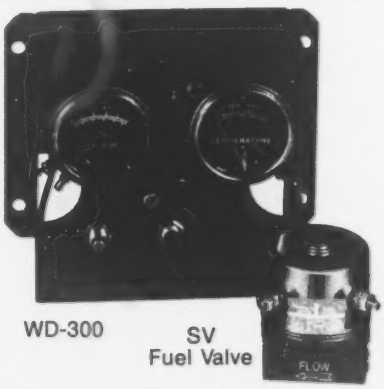
DOWNTIME = LOST PRODUCTION = LOST PROFITS

REINFORCE YOUR PREVENTIVE MAINTENANCE PROGRAM WITH A MURPHY SWICHGAGE® PANEL TO MONITOR ENGINE, PUMP AND/OR DRIVE TRAIN.

Next to competent and concerned mechanics, the best preventive maintenance you can have, is to install Murphy SWICHGAGES.® These reliable monitors are designed to warn before critical pressures and temperatures reach the "Major Damage" (and Downtime) stage.

Murphy SWICHGAGES® are available either in pre-wired panels or as individual instruments to monitor: Lube Oil Pressure, Level or Temperature; Coolant Temperature or Level; Air Cleaner Restriction and Gear Oil Pressure, Temperature or Level.

Contact us for a quick no-obligation recommendation.



WD-300 SV Fuel Valve

Pre-wired/Simple-to-install WD-300 SWICHGAGE® Panel. Available with or without SV-Fuel Valve for use on Diesel or Distributor Ignition Engines. Other Models available to monitor any Pump, Engine or Driven Equipment.

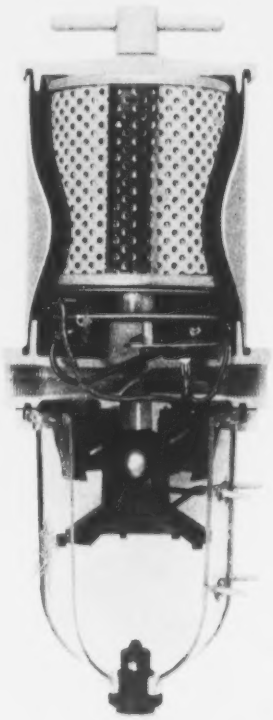
FRANK W. murphy MFR., INC.
ENGINEERING NEW ANGLES TO EQUIPMENT MONITORING AND CONTROL

FRANK W. MURPHY MANUFACTURER INC. P.O. Box 45248, Tulsa, Oklahoma 74145 918/627-3550
MURPHY SOUTHERN DIVISION P.O. Box 35638, Houston, Texas 77036 713/666-4393
MURPHY SAFETY SWITCH OF CALIFORNIA P.O. Box 788, Palmdale, California 93550 805/947-7108
FRANK W. MURPHY LIMITED 178 High Street, Teddington, Middlesex, England -01/977-0193
MURPHEK PTY. LTD. Parametta Rd & Skarrat, Auburn, N.S.W. Australia 647-1977

Circle (9) on Reply Card

Get the water out of diesel fuel.

And the dirt, too.



Racor's patented three-stage fuel filter/water separator gets virtually 100% of the water out of diesel fuel. Also solid contaminants down to one micron in size. Water contaminated fuel means blown injectors.

And when winter comes, the optional Racor fuel heaters provide trouble-free operation during the coldest weather.

Racor offers a simple answer to the major problem of contaminated diesel fuel.

Racor filter/separators range in capacities from .53 gpm to 150 gpm. Available at more than 2000 Racor dealers worldwide. Or write:

RACOR®

Worldwide filter/separator specialists.

Racor Industries, Inc.
Filtration Division
P.O. Box 3208, Modesto, CA 95353
(209) 521-7860 Telex: 35-9408

Circle (13) on Reply Card

VALUE OF FARM EQUIPMENT EXPORTS BY COUNTRY OF DESTINATION, 1979

Value in thousands of dollars.

Western Hemisphere			
Canada	$1,003,343	El Salvador	$ 3,354
Mexico	204,046	Panama	4,829
Honduras	7,360	Dom. Republic	7,057
Costa Rica	6,213	Colombia	11,414
Trinidad	3,164	Peru	7,456
Venezuela	51,861	Chile	8,211
Ecuador	9,696	Paraguay	2,808
Bolivia	2,743	Argentina	20,756
Brazil	24,389	Other W. Hemisphere	20,342
Guatamala	10,265	Total W. Hemisphere	1,408,887
Europe			
Sweden	$ 8,892	Belgium	$ 93,668
United Kingdom	66,786	West Germany	67,402
Netherlands	11,459	Hungary	8,078
France	90,350	Poland	3,692
Switzerland	3,033	Italy	9,692
U.S.S.R.	10,383	Greece	7,976
Spain	14,042		
Yugoslavia	6,020	Other Europe	5,815
Denmark	8,694	Total Europe	415,982
Middle East			
Syria	$ 2,150	Iran	$ 2,350
Iraq	2,917	Kuwait	2,932
Israel	17,859	Other Middle East	5,655
Saudi Arabia	19,732	Total Middle East	53,898
Asia and Pacific			
India	$ 3,397	South Korea	$ 19,659
Thailand	5,078	Australia	119,390
Malaysia	2,823	New Zealand	8,906
Indonesia	2,360	Japan	38,108
Singapore	18,343		
Philippines	6,680	Other Asia-Pacific	7,538
China (PRC)	3,022	Total Asia-Pacific	233,821
Africa			
Lybia	$18,237	Egypt	$ 4,988
Sudan	3,242	Nigeria	2,764
Ivory Coast	12,368	Other Africa	11,699
Rep. South Africa	21,452	Total Africa	74,752
Total Exports, Agricultural Tractors & Equipment			$2,187,420

Source: U.S. Dept. of Commerce, Industry & Trade Administration

Keep abreast of new equipment introductions with..

I&T WHAT'S NEW Department

I&T provides a showcase for new equipment available for the dealer to use in broadening the scope of his dealership.

Subscribe today.

IMPLEMENT & TRACTOR P.O. Box 12901, Overland Park, KS 66212

VALUE OF FARM EQUIPMENT EXPORTS BY COUNTRY OF DESTINATION, JAN.-JUNE, 1980

Value in thousands of dollars.

Western Hemisphere			
Canada	$587,784	Nicaragua	$ 1,912
Mexico	123,741	Panama	1,479
Honduras	3,587	Dominican Republic	9,884
Costa Rica	3,199	Colombia	7,501
Trinidad	2,222	Peru	5,813
Venezuela	33,618	Chile	5,834
Ecuador	4,768	Paraguay	2,077
Uruguay	2,931	Argentina	20,570
Brazil	15,534	Other W. Hemisphere	7,705
Guatamala	3,296	Total W. Hemisphere	842,335
Europe			
Sweden	$ 5,417	Belgium	$ 48,063
United Kingdom	39,991	West Germany	42,389
Netherlands	6,376	Hungary	3,285
France	61,869	Poland	1,291
Switzerland	2,085	Italy	8,608
U.S.S.R.	2,216	Greece	2,036
Spain	9,909	Other Europe	6,358
Yugoslavia	4,646		
Denmark	7,483	Total Europe	252,022
Middle East			
Syria	$ 1,820	Saudi Arabia	$ 11,410
Iraq	1,489	United Arab Emirates	977
Israel	9,161	Other Middle East	3,558
Kuwait	1,938	Total Middle East	30,353
Asia and Pacific			
India	$ 1,638	South Korea	$ 1,456
Thailand	1,956	Australia	91,584
Malaysia	1,173	New Zealand	4,903
Indonesia	2,346	Japan	22,873
Singapore	14,199	Other Asia-Pacific	1,886
Philippines	2,204		
China (PRC)	2,074	Total Asia-Pacific	148,292
Africa			
Lybia	$ 4,685	Nigeria	$ 2,321
Sudan	747	Rep. of South Africa	21,512
Ivory Coast	1,899	Other Africa	5,825
Zaire	690		
Egypt	2,496	Total Africa	40,175
Total Exports, Agricultural Tractors & Equipment			$1,313,177

Source: U.S. Dept. of Commerce, Industry & Trade Administration.

Mayhew
pilot
punches

12 SIZES
match all Standard pin diameters and maximum lengths

These roll and spring pin extractors center perfectly over pin, eliminating damage to pin or wall of holes. Pin is driven completely through hole without sticking punch.

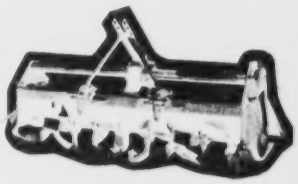
Write for complete information

MAYHEW STEEL PRODUCTS, INC.
DEPT. F
Shelburne Falls, Mass. 01370 U.S.A.
Tel: 413-625-6351

Circle (14) on Reply Card

SOVEMA
S.p.A.

THE MONEYMAKING ROTARY TILLERS FOR YOU



- **Extensive range from 18 HP to 130 HP**
- **High standard of quality**
- **Competitive pricing**
- **Attractive trade terms**
- **After sale service**
- **8 distributors in the U.S. and Canada**
- **Fema seal of quality**
- **Distributors and dealer inquiries welcome**

CONTACT:

North American Sales Offices:
Phone: (204) 77.58.961
Phone: (207) 69.85.519

or directly

SOVEMA S.p.A. - Expt. Dept.
Via Giardini, 168 - Modena - Italy
Phone: (059) 21.75.40 - Tx 531114

Circle (15) on Reply Card

FARM EQUIPMENT EXPORTS BY TYPE OF PRODUCT

Product	Jan.-Dec., 1978 Quantity	Jan.-Dec., 1978 Dollar Value in Thousands	Jan.-Dec., 1979 Quantity	Jan.-Dec., 1979 Dollar Value in Thousands	Jan.-June, 1980 Quantity	Jan.-June, 1980 Dollar Value in Thousands
Combines, pull-type	2,347	28,546	2,460	36,467	3,357	78,468
Combines, self-propelled	5,716	103,658	6,680	143,364	1,192	23,123
Cultivators, tractor-drawn or mounted	4,427	9,419	5,523	12,373	4,868	8,181
Cultivators, NEC, and Weeders	7,862	5,034	6,074	6,478	2,440	2,926
Farm Elevators and Blowers	2,956	7,264	3,531	9,372	1,782	5,167
Farm Wagons and Carts	5,538	4,160	5,985	3,227	1,580	1,612
Parts for Farm Wagons and Carts	.....	2,112	.....	2,646	.....	8,777
Fertilizing Machines	18,138	20,297	47,442	24,510	24,732	10,921
Forage Harvesters	NA	NA	3,861	29,824	3,708	24,499
Harrows, Disk	7,809	20,112	11,505	26,781	4,764	13,604
Harrows, NEC, & Soil Pulverizers	11,918	11,311	11,972	11,693	6,051	5,735
Parts for Harrows, Stalk Cutters & Soil Pulverizers	.....	14,560	.....	13,680	.....	5,890
Harvesting Machines, NEC	9,936	64,363	11,021	91,541	7,522	52,425
Harvesting Machine Parts	.....	76,248	.....	60,731	.....	40,648
Hay Balers	8,887	32,529	10,525	42,816	9,213	43,908
Haying Machines, NEC (incl. rakes & tedders)	7,939	15,685	7,286	25,353	3,639	16,116
Parts for Haying Machines	.....	27,141	.....	31,839	.....	15,373
Mowers, Cutterbar, tractor-drawn	2,555	4,073	2,853	6,181	2,041	4,523
Mowers, Rotary, tractor-drawn (excl. lawn mowers)	3,271	3,431	9,277	6,391	8,155	6,296
Mowers, NEC, tractor-drawn (excl. lawn mowers)	2,749	6,126	2,720	7,588	1,430	4,746
Planting Machines	4,536	6,869	8,218	11,260	3,961	5,875
Plows, Disk	6,311	8,301	4,461	6,687	2,483	4,007
Plows, Moldboard	3,043	7,354	3,415	11,050	2,058	6,441
Plows & Listers, NEC	5,199	7,831	6,067	12,243	5,928	7,577
Parts for Plows, Listers, Cultivators & Weeders	.....	27,302	.....	36,494	.....	19,829
Seeding Machines	10,682	16,531	24,409	22,549	9,889	10,429
Parts for Planting, Seeding & Fertilizing Machines	.....	19,261	.....	18,489	.....	10,451
Farm Tractors:						
Under 40 PTO HP	4,426	14,932	4,471	21,940	2,912	12,776
40-59 PTO HP	1,970	15,846	2,605	23,038	908	8,704
60-79 PTO HP	2,955	29,761	1,733	20,809	806	10,121
80-99 PTO HP	2,673	41,217	1,608	25,139	736	13,166
100-119 PTO HP	4,628	81,263	4,182	79,125	2,239	47,033
120-139 PTO HP	5,293	98,064	6,142	127,612	3,613	84,952
140-159 PTO HP	2,530	56,603	2,598	61,816	1,170	31,036
160-179 PTO HP	840	23,395	1,241	37,109	660	22,611
180 HP & Over	2,052	63,043	2,801	101,755	2,002	80,320
Other Farm Tractors	NA	NA	4,034	53,607	1,641	25,839
Parts for Farm Tractors	NA	NA	.....	611,457	.....	361,289

SOURCE: U.S. Dept. of Commerce, Bureau of Industrial Economics
NEC—Not elsewhere counted or classified. NA—Not available.

Circle (16) on Reply Card

Is farm tractor population **increasing?**

By Bill Fogarty

Not actually, but early data from the 1978 Census of Agriculture reveals the presence of tractors on farms that hadn't been noted with earlier methods used by the Bureau of the Census. Some states (Kentucky, for example) show major 'increases.'

■MORE TRACTORS on farms than we had thought! That's what comes tumbling out of some very preliminary and partial data from the 1978 Census of Agriculture, as provided by the Bureau of the Census.

According to Census spokespeople, "significant improvements in data collection procedures" were used in the 1978 enumeration that hadn't been available in 1974, when the previous Census of Agriculture was taken.

The improvements, says the bureau, were in two areas. The first was in the mailing lists used to send farmers their census report forms. The second was a door-to-door canvass of sample households in rural areas. The results allowed the bureau to identify additional farms which would have been missed under 1969 and 1974 procedures.

The Bureau of the Census was able to provide I&T with preliminary reports on a little over half the states before our deadline for this issue. In every case, we found an "increase" in the number of wheel tractors on farms from the 1974 count, whether they were farms with sales of $2,500 or more, or all farms.

On paper, this "increase" represents a reversal in a trend that has been going on in some areas for two decades, in others for 15 years. The 1964 Census of Agriculture counted a peak of 4,782,872 tractors on U.S. farms, followed by 4,614,554 in 1969. With the refinement in data gathering, we could get a total exceeding that of 1964.

In some states with major tractor populations, the numerical increase from the 1974 count are notable. In Iowa (the most tractor-populous state), the enumerators found 14,145 more units in 1978 than in 1974, up 4.6 per cent to 328,275.

In other states, also with important tractor populations, the increases were dramatic: Pennsylvania's total, 119,223 in 1974, went up by 24,000 units or 24 per cent! And Kentucky—126,357 tractors in 1974 *and 165,011 in 1978, up 30 per cent!*

With more tractors actually existing on U.S. farms than had been assumed, what inferences can be drawn? Perhaps it would be best to sit tight until more detail is available—reports from all the states and counties, plus the number of tractor models which were less than five years old when the census was taken in January, 1979. But a few things are clear:

- Tractors are lasting longer than previous estimates had indicated.
- If the amounts of fuel, lubricant, replacement parts, etc., sold in a given state remain constant and the number of tractors is higher, there is less average use per tractor than previous data indicated, and also less maintenance per unit.

Definitions of farms

In 1974's census, the bureau, in accord with the U.S. Dept. of Agriculture, defined a farm for statistical purposes as any place from which $1,000 or more of agricultural products were sold, or normally would have been sold, during the census year. (This definition was also applied for the 1978 census.) In the three previous censuses, a farm was defined as any place with less than 10 acres from which $250 or more of farm products were sold, or anyplace of 10 acres or more selling $50 or more of farm products.

Veteran watchers of the tractor market may be very interested not only in the newly discovered units that show up on these defined farms but also in others which are on farms outside the Bureau of the Census definition.

In recent years, the well-publicized push by many U.S. citizens to get out of the cities, even out of the suburbs, has resulted in the purchase of vast numbers of small

packages of rural land. Owners of these small acreages are sometimes affluent and sometimes of modest means; they may use the land for pasturing a few horses or other animals or even raising a few crops, often hoping for substantial accrual in the land's value. Very often, these owners buy a tractor to put on their "farms" that, by Bureau of Census definition, are not farms.

Such tractors, whether they are 30-year-old Ford 8Ns or gleaming, new Kubotas, comprise a rather substantial market for a certain segment of this industry, even though they are frequently hidden from the census enumerator by the definition.

As this brief report was written, I&T had received data from preliminary Census of Agriculture reports on 27 states, and it's our intention to insert in the table any late additions we get, right up to press time. If you don't count all 50 states in the table, you can expect to see it presented again, complete, in a later issue.

In the section which follows, Principal Machines on Farms, you'll find that I&T's estimate of tractors on farms as of July 1, 1980, does not take into account the changes in counting methods which produced the higher total tractor numbers in the 1978 Census of Agriculture. The estimate and table were prepared before the preliminary reports came out. □

Preliminary, partial report: NUMBERS OF TRACTORS ON FARMS, 1978 FARM CENSUS —SOME IMPORTANT CHANGES

	All Farms		Farms With Sales of $2,500 or More	
State (not all states data available at press time)	Ag Census 1978	Ag Census 1974	Ag Census 1978	Ag Census 1974
Alabama	75,519	66,588	54,767	43,827
Alaska	520	396	375	305
Arkansas	89,633	75,825	74,037	59,438
California	136,640	112,822	118,510	99,331
Colorado	60,719	55,286	54,228	50,158
Connecticut	9,251	7,405	6,831	6,165
Delaware	8,743	7,485	8,138	6,952
Idaho	55,759	49,689	50,781	45,068
Illinois	286,861	267,761	270,626	253,637
Indiana	183,227	164,535	164,108	147,163
Iowa	328,275	313,920	318,269	304,124
Kansas	160,700	158,607	150,051	147,090
Kentucky	165,011	126,357	140,903	98,198
Maine	15,084	12,508	11,268	10,392
Maryland	41,407	33,837	35,756	28,791
Massachusetts	10,974	8,630	8,523	7,012
Michigan	157,886	139,883	129,975	116,604
Missouri	205,224	185,123	182,533	151,015
Nebraska	177,872	168,085	172,853	162,197
Nevada	5,428	4,895	4,730	4,291
New Hampshire	5,665	4,616	3,895	3,420
New Jersey	23,249	18,579	19,411	16,055
New York	128,374	112,120	107,737	95,375
North Carolina	153,464	127,827	128,694	102,259
Ohio	206,624	184,634	178,978	157,769
Oregon	52,575	44,340	41,472	34,840
Pennsylvania	143,039	119,223	119,259	94,929
Rhode Island	1,748	1,285	1,261	1,025
Tennessee	129,424	107,936	99,406	70,208
Utah	22,345	20,054	18,461	16,036
Vermont	16,396	13,694	13,551	12,104
Virginia	90,200	73,847	72,107	55,188
Washington	58,454	49,433	47,917	40,983
West Virginia	28,021	22,112	16,361	10,366
Wisconsin	258,751	232,965	238,101	212,214
Wyoming	19,830	19,490	18,393	18,157

Source: 1978 Census of Agriculture, Preliminary State Reports.

Motor Vehicles and Specified Machines on U.S. Farms and Average Prices of Wheel Tractors, Designated Years[1]

Year	Tractors (exclusive of steam & garden)[2] Thousands	Motor Trucks Thousands	Grain Combines Thousands	Corn Pickers and Picker Shellers Thousands	Pick-up Balers Thousands	Field Forage Harvesters Thousands	Garden Tractors and Motor Tillers[3] Thousands	Wheel Tractors Wholesale Prices[4] Per Unit Dollars	Horsepower Dollars
1925	549	459	.....	.....	.....	.....	.....	.....	.....
1926	621	559	.....	.....	.....	.....	.....	.....	.....
1927	693	662	.....	.....	.....	.....	.....	.....	.....
1928	782	753	.....	.....	.....	.....	.....	.....	.....
1929	827	840	.....	.....	.....	.....	.....	.....	.....
1930	920	900	61	50	.....	.....	.....	.....	.....
1931	997	920	.....	.....	.....	.....	.....	.....	.....
1932	1,022	910	.....	.....	.....	.....	.....	.....	.....
1933	1,019	865	.....	.....	.....	.....	.....	.....	.....
1934	1,016	875	.....	.....	.....	.....	.....	.....	.....
1935	1,048	890	.....	.....	.....	.....	.....	.....	.....
1936	1,125	923	.....	.....	.....	.....	.....	.....	.....
1937	1,230	990	.....	.....	.....	.....	.....	.....	.....
1938	1,370	1,042	.....	.....	.....	.....	.....	.....	.....
1939	1,445	1,020	.....	.....	.....	.....	.....	.....	.....
1940	1,545	1,047	190	110	.....	.....	.....	.....	.....
1941	1,675	1,095	225	120	.....	.....	.....	.....	.....
1942	1,885	1,160	275	130	25	.....	.....	.....	.....
1943	2,100	1,280	320	138	31	.....	.....	$ 579	$21
1944	2,215	1,385	345	146	34	.....	.....	$ 658	$24
1945	2,354	1,490	275	168	42	20	68	$ 665	$25
1946	2,480	1,550	420	203	54	25	80	$ 733	$28
1947	2,613	1,700	465	236	65	30	122	$ 783	$30
1948	2,821	1,900	535	299	90	45	159	$ 890	$33
1949	3,123	2,065	620	372	135	60	192	$ 994	$35
1950	3,399	2,209	714	456	196	81	216	$1,073	$37
1951	3,678	2,310	810	522	240	102	242	$1,234	$42
1952	3,907	2,410	887	588	298	124	268	$1,297	$42
1953	4,100	2,520	930	630	345	148	296	$1,359	$39
1954	4,243	2,610	965	660	395	175	315	$1,513	$39
1955	4,345	2,675	980	688	448	202	332	$1,554	$39
1956	4,480	2,707	1,005	715	505	220	353	$1,682	$41
1957	4,570	2,745	1,015	740	560	240	375	$1,842	$41
1958	4,620	2,775	1,030	755	600	258	400	$2,111	$46
1959	4,673	2,800	1,045	775	645	270	425	$2,189	$48
1960	4,688	2,834	1,042	792	680	291	450	$2,338	$49
1961	4,743	2,850	980	740	685	291	468	$2,578	$50
1961	4,763	2,885	960	730	703	300	485	$2,819	$51
1963	4,778	2,925	940	720	718	307	500	$3,046	$53
1964	4,786	2,970	920	705	734	312	513	$3,443	$53
1965	4,787	3,030	910	690	751	316	699	$3,541	$56
1966	4,783	3,017	888	686	752	316	725	$3,886	$58
1967	4,786	3,009	867	680	748	319	750	$4,257	$62
1968	4,766	3,016	847	673	739	321	770	$4,709	$66
1969	4,712	3,004	820	657	725	314	790	$4,976	$71
1970	4,619	2,978	790	635	708	304	805	$5,560	$76
1971	4,562	2,985	760	629	698	309	815	$6,190	$80
1972	4,509	2,993	725	625	687	315	825	$6,486	$84
1973	4,477	3,006	703	618	680	324	835	$6,953	$85
1974	4,478	3,020	685	618	677	332	850	$7,294	$86
1975	4,463	3,032	666	615	666	337	870	$8,459	$91
1976	4,434	3,043	647	610	642	342	890	$11,220	$112
1977	4,381	3,052	630	605	614	346	905	$12,692	$124
1978	4,350	3,054	615	600	595	345	917	$14,273	$132
1979	4,312	3,057	600	590	575	342	930	$16,572	$149
1980	4,270	3,057	590	580	550	340	938	$18,012	$166

[1]SOURCE: Reports of the USDA and the Bureau of the Census. After 1959 Alaska and Hawaii are included. On-farm data after 1970, except for 1974, are estimated by I&T.

[2]Consists of Wheel and Crawler Tractors only after 1944. Prior to 1945 some Garden Tractors may have been included but the number was small.

[3]Motor Tillers included after 1964.

[4]Estimated at wholesale level by dividing **Value of Manufacturers' Shipments** by **Units Shipped** and by **Maximum Belt Horsepower**, data are published in "Current Industrial Reports" of the Bureau of the Census.

Principal Machines on Farms—1980

STATE	WHEEL AND CRAWLER TRACTORS						TRACTOR MOLDBOARD PLOWS	
	1954 Census Number	1959 Census Number	1964 Census Number	1969 Census Number	1974 Census Number	Estimated July 1, 1980 Number	Estimated July 1, 1958 Number	Estimated July 1, 1980 Number
Maine	16,800	17,793	16,290	14,252	13,493	12,050	12,400	7,380
New Hampshire	6,635	6,605	6,253	4,953	4,989	4,630	4,600	2,800
Vermont	14,183	16,669	16,333	15,227	14,706	13,450	10,200	8,150
Massachusetts	12,656	12,068	11,575	9,537	9,341	8,120	8,800	5,900
Rhode Island	1,256	1,651	1,687	1,359	1,359	1,200	1,000	850
Connecticut	11,286	11,219	9,963	8,679	7,924	7,230	7,700	4,920
New York	129,741	138,670	136,304	122,645	118,313	108,900	107,000	81,000
New Jersey	25,223	24,726	22,042	19,984	19,324	17,160	21,500	15,700
Pennsylvania	137,476	144,759	144,149	126,810	124,251	112,500	118,600	95,000
Delaware	7,826	8,259	7,992	7,555	7,631	7,240	6,700	6,100
Maryland	35,774	37,291	37,203	34,174	34,705	32,060	30,500	26,500
NORTHEAST	**398,856**	**419,710**	**409,791**	**365,175**	**356,036**	**324,540**	**329,000**	**254,300**
Ohio	198,306	204,681	199,694	194,962	188,580	178,000	161,000	151,000
Indiana	176,016	186,853	181,086	174,055	167,382	158,600	149,000	136,000
Illinois	265,722	290,002	287,480	275,203	272,093	257,500	210,000	184,500
Iowa	297,015	327,863	329,172	318,998	317,052	295,700	235,000	214,500
Missouri	168,428	191,512	198,095	201,513	189,672	176,600	135,000	127,300
CORN BELT	**1,105,487**	**1,200,911**	**1,195,527**	**1,164,731**	**1,134,779**	**1,066,400**	**890,000**	**813,300**
Michigan	166,791	169,782	169,920	152,741	143,569	130,700	139,000	103,600
Wisconsin	213,903	234,387	247,427	229,752	237,457	213,800	171,000	150,600
Minnesota	249,332	275,833	284,887	258,614	260,535	236,900	210,000	174,300
LAKE STATES	**630,026**	**680,002**	**702,234**	**641,107**	**641,561**	**581,400**	**520,000**	**428,500**
North Dakota	112,558	121,039	122,056	118,069	123,072	114,600	84,000	74,000
South Dakota	109,123	115,639	120,100	111,532	114,546	102,300	84,000	71,000
Nebraska	159,977	175,254	180,423	166,098	170,423	156,600	108,000	90,200
Kansas	168,506	173,651	174,185	163,180	161,276	149,300	123,000	95,700
GREAT PLAINS	**550,164**	**585,764**	**596,764**	**558,879**	**569,317**	**522,800**	**399,000**	**330,900**
West Virginia	18,162	21,995	23,926	23,842	23,265	21,500	15,400	14,700
Kentucky	83,842	103,415	118,404	137,105	129,069	127,500	71,000	68,400
Tennessee	84,869	97,800	108,319	122,528	110,941	110,600	43,000	48,500
Virginia	64,750	75,143	78,989	79,347	76,121	74,100	52,000	46,800
North Carolina	120,595	140,639	149,850	150,825	130,140	129,000	57,600	53,500
APPALACHIAN	**372,218**	**438,992**	**479,488**	**513,647**	**469,536**	**462,700**	**239,000**	**231,900**
South Carolina	44,631	48,637	50,931	50,115	45,321	46,820	9,200	11,700
Georgia	85,192	89,392	89,049	84,366	77,067	83,240	23,500	24,000
Florida	31,858	35,820	41,295	42,958	44,192	47,760	12,300	15,200
Alabama	62,526	67,559	71,925	75,069	68,521	70,000	20,500	23,000
SOUTHEAST	**224,207**	**241,408**	**253,200**	**252,508**	**235,101**	**247,820**	**65,500**	**73,900**
Mississippi	79,575	84,425	90,347	88,677	76,808	79,900	29,700	28,300
Louisiana	49,985	53,229	60,618	63,194	55,933	59,100	15,400	17,300
Arkansas	79,799	83,852	90,993	86,977	78,083	82,500	41,900	40,800
DELTA STATES	**209,359**	**221,506**	**241,958**	**238,848**	**210,824**	**221,500**	**87,000**	**86,400**
Oklahoma	101,885	102,323	101,605	102,397	91,661	88,600	74,000	64,600
Texas	268,613	268,233	269,519	282,088	251,687	249,000	74,500	69,300
SOUTHERN PLAINS	**370,498**	**370,556**	**371,124**	**384,485**	**343,348**	**337,600**	**148,500**	**133,900**
Montana	54,163	59,510	61,832	58,729	58,457	53,200	30,500	26,300
Idaho	49,753	56,961	58,607	54,091	55,419	51,100	40,000	35,000
Wyoming	18,700	20,737	21,596	20,925	20,801	18,470	15,400	14,500
Colorado	59,647	64,051	63,906	59,112	58,091	52,100	34,000	28,800
New Mexico	16,817	17,146	17,919	15,998	17,021	15,800	11,300	9,000
Arizona	13,506	13,443	13,747	12,136	13,812	14,600	4,200	4,000
Utah	19,445	21,803	22,256	20,128	21,110	19,950	17,500	15,700
Nevada	4,356	5,297	5,557	5,318	5,515	4,820	3,100	2,600
MOUNTAIN STATES	**236,387**	**258,948**	**265,420**	**246,437**	**250,226**	**230,040**	**156,000**	**136,400**
Washington	57,048	63,114	65,813	58,600	59,542	56,000	42,000	38,300
Oregon	54,206	56,732	58,741	51,223	52,651	48,700	44,000	40,000
California	136,778	147,390	142,812	138,914	140,393	134,500	70,000	67,200
PACIFIC	**248,032**	**267,236**	**267,366**	**248,737**	**252,586**	**239,200**	**156,000**	**145,500**
TOTAL	**4,345,234**	**4,684,852**	**4,782,872**	**4,614,554**	**4,463,314**	**4,234,000**	**2,990,000**	**2,635,000**

Principal Machines on Farms—1980

STATE	COMBINES[1] 1959 Census Number	1964 Census Number	1969 Census Number	1974 Census Number	Estimated July 1, 1980 Number	CORN HEADS FOR COMBINES[2] 1969 Census Number	1974 Census Number	Estimated July 1, 1980 Number
Maine	1,077	875	218	242	230	120	141	140
New Hampshire	39	27	8	5	5	65	55	48
Vermont	431	344	113	87	70	175	238	242
Massachusetts	98	70	34	35	26	84	103	100
Rhode Island	24	20	5	7	5	21	10	10
Connecticut	112	77	40	15	9	92	85	70
New York	18,702	16,536	4,902	5,114	4,700	1,706	2,344	3,050
New Jersey	2,239	1,726	634	766	830	269	324	400
Pennsylvania	26,431	23,939	6,777	7,297	6,800	1,924	2,636	3,580
Delaware	1,903	1,780	979	1,127	1,100	566	681	780
Maryland	5,934	5,237	2,604	2,740	2,800	1,555	1,954	2,420
NORTHEAST	**56,990**	**50,631**	**16,314**	**17,435**	**16,575**	**6,577**	**8,571**	**10,840**
Ohio	57,060	50,291	20,805	26,009	26,400	11,892	17,515	22,350
Indiana	54,238	46,395	23,871	29,485	30,500	17,920	24,616	30,800
Illinois	93,366	80,857	48,116	55,085	55,000	37,649	46,362	54,900
Iowa	99,709	86,178	28,221	42,117	45,500	22,302	37,864	51,000
Missouri	51,993	44,535	24,208	26,253	26,400	16,112	18,278	20,000
CORN BELT	**356,366**	**308,256**	**145,221**	**178,949**	**183,800**	**105,875**	**144,635**	**179,050**
Michigan	45,764	41,360	13,053	14,649	13,700	4,306	7,098	9,100
Wisconsin	45,032	45,516	10,859	13,392	12,900	3,566	5,147	7,180
Minnesota	73,278	71,748	27,189	35,033	34,700	12,102	18,780	24,200
LAKE STATES	**164,074**	**158,624**	**51,101**	**63,074**	**61,300**	**19,974**	**31,025**	**40,480**
North Dakota	48,732	41,782	26,952	27,273	26,000	753	864	1,040
South Dakota	33,206	28,289	11,926	13,941	13,500	3,483	5,386	6,910
Nebraska	53,343	43,205	25,730	29,224	29,300	13,370	18,578	23,500
Kansas	72,115	59,813	41,601	41,871	40,200	6,533	8,038	9,130
GREAT PLAINS	**207,396**	**173,089**	**107,209**	**112,309**	**109,000**	**24,139**	**32,866**	**40,580**
West Virginia	951	1,020	245	307	260	147	199	210
Kentucky	10,617	9,737	4,565	6,329	6,700	3,196	4,390	5,650
Tennessee	13,003	11,537	5,773	6,843	7,640	2,458	2,734	3,280
Virginia	10,133	9,281	3,769	4,309	4,350	2,243	2,972	3,550
North Carolina	17,335	14,847	7,982	8,828	9,200	5,279	6,696	8,100
APPALACHIAN	**52,039**	**46,422**	**22,334**	**26,616**	**28,150**	**13,323**	**16,991**	**20,790**
South Carolina	8,595	7,085	4,483	4,706	5,020	1,803	2,285	2,880
Georgia	10,340	9,177	5,408	6,255	7,400	4,036	4,836	6,120
Florida	1,055	1,230	1,010	1,182	1,400	584	773	1,030
Alabama	5,116	4,806	3,423	3,988	4,630	1,635	1,858	2,160
SOUTHEAST	**25,106**	**22,298**	**14,324**	**16,131**	**18,450**	**8,058**	**9,752**	**12,190**
Mississippi	7,369	6,099	6,977	6,893	8,220	441	310	290
Louisiana	5,078	5,145	6,414	7,034	7,670	357	231	200
Arkansas	13,750	13,086	12,657	11,484	12,850	294	725	660
DELTA STATES	**26,197**	**24,330**	**26,048**	**25,411**	**28,740**	**1,092**	**1,266**	**1,150**
Oklahoma	27,038	21,668	14,909	14,797	14,000	457	511	560
Texas	40,723	31,355	21,223	19,394	19,500	1,743	1,858	2,590
SOUTHERN PLAINS	**67,761**	**53,023**	**36,132**	**34,191**	**33,500**	**2,200**	**2,369**	**3,150**
Montana	18,063	16,011	11,687	11,392	10,600	121	107	100
Idaho	12,703	11,330	7,639	8,113	7,750	202	252	285
Wyoming	3,757	2,962	1,523	1,690	1,550	112	149	190
Colorado	13,799	11,062	6,937	7,338	6,860	1,032	1,632	2,500
New Mexico	2,358	1,898	1,041	1,229	1,110	52	117	175
Arizona	824	559	412	530	640	25	23	30
Utah	3,136	2,421	1,442	1,442	1,310	134	196	230
Nevada	402	277	201	253	235	9	21	20
MOUNTAIN STATES	**55,042**	**46,520**	**30,882**	**31,987**	**30,055**	**1,687**	**2,497**	**3,530**
Washington	10,800	9,706	6,891	7,330	7,130	307	269	345
Oregon	10,587	8,372	5,107	5,266	5,000	167	106	95
California	9,169	8,366	5,619	5,373	5,300	633	696	800
PACIFIC	**30,556**	**26,444**	**17,617**	**17,969**	**17,430**	**1,107**	**1,071**	**1,240**
TOTAL	**1,041,527**	**909,637**	**467,182**	**524,072**	**527,000**	**184,032**	**251,043**	**313,000**

[1]The Census in 1959 and 1964 included self-propelled and pull types. The Census in 1969 and 1974 and the estimated number for July 1, 1980 cover only the number of self-propelled combines.

[2]The Census of 1969 included only corn heads on class 1-5 farms, those with $2,500 or more of income. The Census in 1974 and the estimated number for July 1, 1980 cover all farms.

Principal Machines on Farms—1980

STATE	PICK-UP BALERS					FIELD FORAGE HARVESTERS[1]			
	1959 Census Number	1964 Census Number	1969 Census Number	1974 Census Number	Estimated July 1, 1980 Number	1964 Census Number	1969 Census Number	1974 Census Number	Estimated July 1, 1980 Number
Maine	3,137	3,339	2,446	2,255	1,980	998	712	914	1,370
New Hampshire	1,673	1,681	1,266	1,197	1,060	747	385	612	930
Vermont	5,210	5,796	4,171	3,975	3,260	2,358	1,542	2,328	3,250
Massachusetts	2,379	2,343	1,774	1,600	1,330	1,412	744	923	1,200
Rhode Island	247	250	171	172	140	233	88	122	150
Connecticut	2,110	1,971	1,604	1,313	1,215	1,561	788	777	910
New York	36,724	38,107	31,074	27,495	22,000	20,710	13,815	17,363	23,330
New Jersey	3,258	3,073	2,357	2,066	1,680	2,181	1,171	1,127	1,260
Pennsylvania	38,491	41,873	35,571	32,195	25,800	20,794	12,240	15,485	22,800
Delaware	856	664	609	628	530	475	245	422	630
Maryland	6,599	6,845	5,750	5,159	4,100	3,961	2,177	2,603	3,760
NORTHEAST	**100,684**	**105,942**	**86,793**	**78,055**	**63,095**	**55,430**	**33,907**	**42,676**	**59,590**
Ohio	41,809	43,607	40,101	36,137	27,700	11,759	7,788	9,757	14,380
Indiana	25,835	25,459	23,414	21,705	16,700	7,523	5,344	6,121	7,700
Illinois	38,792	38,163	33,291	29,822	21,600	16,295	10,130	11,333	14,450
Iowa	58,558	60,111	55,456	47,461	34,400	20,937	14,245	17,179	24,060
Missouri	31,697	36,265	38,929	38,487	29,300	9,315	6,884	7,430	8,050
CORN BELT	**196,691**	**203,605**	**191,191**	**173,612**	**129,700**	**65,829**	**44,391**	**51,820**	**68,640**
Michigan	28,414	31,502	26,915	23,897	18,500	15,077	8,986	11,682	16,800
Wisconsin	53,836	63,921	56,939	54,962	44,600	48,149	27,199	38,341	56,320
Minnesota	45,583	55,896	51,600	46,689	35,700	26,024	17,761	20,825	27,850
LAKE STATES	**127,833**	**151,319**	**135,454**	**125,548**	**98,800**	**89,250**	**53,946**	**70,848**	**100,970**
North Dakota	13,882	15,823	15,623	14,831	10,600	9,555	6,614	5,911	5,870
South Dakota	13,117	14,441	14,657	13,835	10,160	10,810	9,755	11,254	16,970
Nebraska	18,684	19,907	18,988	17,309	13,000	13,268	11,232	12,632	13,950
Kansas	24,595	28,086	27,464	26,846	20,500	17,035	11,712	10,651	11,400
GREAT PLAINS	**70,278**	**78,257**	**76,732**	**72,821**	**54,260**	**50,668**	**39,313**	**40,448**	**48,190**
West Virginia	5,459	7,362	8,013	7,444	6,350	1,155	1,143	1,478	1,780
Kentucky	18,397	21,476	24,121	23,536	18,500	3,157	3,621	4,400	5,300
Tennessee	13,103	15,234	17,686	17,090	14,800	3,002	2,953	3,602	4,500
Virginia	14,419	16,105	16,035	15,285	12,400	4,450	4,181	4,675	5,470
North Carolina	10,087	10,322	10,053	10,115	8,300	3,365	2,695	3,841	4,540
APPALACHIAN	**61,465**	**70,499**	**75,908**	**73,470**	**60,350**	**15,129**	**14,593**	**17,996**	**21,590**
South Carolina	4,325	4,468	3,857	3,719	3,140	1,139	887	1,075	1,290
Georgia	5,875	6,917	7,118	6,678	6,050	1,696	1,455	1,722	2,330
Florida	1,032	1,419	1,692	1,910	1,950	543	447	629	710
Alabama	4,361	6,231	7,227	7,662	6,920	1,233	1,250	1,513	1,860
SOUTHEAST	**15,593**	**19,035**	**19,894**	**19,969**	**18,060**	**4,611**	**4,039**	**4,939**	**6,190**
Mississippi	6,065	6,618	7,045	7,431	6,300	1,697	1,531	2,130	2,590
Louisiana	3,987	5,064	4,831	4,594	3,960	775	763	872	1,190
Arkansas	6,206	6,456	7,500	8,040	7,670	1,181	1,014	1,047	1,170
DELTA STATES	**16,258**	**18,138**	**19,376**	**20,065**	**17,930**	**3,653**	**3,308**	**4,049**	**4,950**
Oklahoma	11,353	12,965	14,246	14,432	13,270	2,820	1,872	1,740	1,970
Texas	13,591	15,737	18,208	18,534	18,700	4,643	3,556	3,215	3,820
SOUTHERN PLAINS	**24,944**	**28,702**	**32,454**	**32,966**	**31,970**	**7,463**	**5,428**	**4,955**	**5,790**
Montana	9,211	11,458	11,059	10,613	8,870	1,736	1,695	1,512	1,700
Idaho	11,323	13,072	12,057	12,048	10,500	2,696	1,907	2,048	2,390
Wyoming	3,496	4,259	4,357	4,383	3,870	1,086	924	995	1,190
Colorado	8,095	9,600	9,504	9,505	8,300	5,252	3,744	3,755	4,370
New Mexico	2,150	2,340	2,532	2,833	2,690	560	490	591	730
Arizona	995	1,001	860	1,018	885	556	281	314	480
Utah	5,891	6,389	5,887	5,957	5,480	1,989	1,378	1,560	1,930
Nevada	1,116	1,264	1,177	1,299	1,100	291	189	233	320
MOUNTAIN STATES	**42,277**	**49,383**	**47,433**	**47,656**	**41,695**	**14,166**	**10,608**	**11,008**	**13,110**
Washington	8,085	9,759	8,658	8,215	7,330	3,734	1,837	2,234	3,390
Oregon	6,482	8,007	7,218	7,195	6,500	2,419	1,532	1,496	2,160
California	9,164	8,389	8,829	6,435	5,310	3,189	1,666	2,006	3,430
PACIFIC	**23,731**	**26,155**	**22,705**	**21,845**	**19,140**	**9,342**	**5,035**	**5,736**	**8,980**
TOTAL	**679,754**	**751,035**	**707,940**	**666,007**	**535,000**	**315,541**	**214,568**	**254,475**	**338,000**

[1]The Census in 1964 and the estimated number for July 1, 1980 include shear-bar and flail types. The Census in 1969 and 1974 covered only the number of shear-bar harvesters.

Principal Machines on Farms—1980

STATE	POWER TRACTOR MOWERS (Cutter bar type only) Estimated July 1, 1958 Number	Estimated July 1, 1980 Number	SIDE DELIVERY RAKES Estimated July 1, 1958 Number	Estimated July 1, 1980 Number	MOWER CONDITIONERS[1] 1974 Census Number	Estimated July 1, 1980 Number
Maine	9,000	6,700	10,000	5,530	1,378	1,920
New Hampshire	4,400	3,050	5,000	2,350	605	920
Vermont	10,000	8,900	10,300	6,900	2,776	3,950
Massachusetts	5,800	4,000	6,000	3,300	1,048	1,420
Rhode Island	550	350	500	300	102	130
Connecticut	4,500	3,500	4,000	2,340	786	1,170
New York	55,000	55,500	61,000	43,600	18,701	25,400
New Jersey	7,000	4,500	8,000	3,760	1,636	2,020
Pennsylvania	60,000	61,600	67,000	46,100	20,428	27,000
Delaware	1,750	1,090	2,200	960	525	650
Maryland	14,000	11,340	13,000	8,460	3,614	4,420
NORTHEAST	**172,000**	**160,530**	**187,000**	**123,600**	**51,599**	**69,000**
Ohio	70,000	65,500	86,000	53,500	20,268	25,890
Indiana	64,000	51,500	71,000	39,300	12,503	15,800
Illinois	106,000	71,700	86,000	51,200	18,793	22,400
Iowa	115,000	106,600	127,000	85,800	19,636	26,250
Missouri	80,000	85,700	50,000	50,200	17,228	24,200
CORN BELT	**435,000**	**381,000**	**420,000**	**280,000**	**88,428**	**114,450**
Michigan	48,000	49,200	85,000	41,300	15,924	19,860
Wisconsin	93,000	105,500	115,000	86,100	36,232	50,500
Minnesota	96,000	98,200	108,000	83,500	22,979	29,100
LAKE STATES	**237,000**	**252,900**	**308,000**	**210,900**	**75,135**	**99,460**
North Dakota	42,000	41,000	26,000	22,100	5,971	6,500
South Dakota	44,000	47,500	31,000	22,200	4,445	4,830
Nebraska	61,000	57,500	41,000	34,200	9,225	11,650
Kansas	62,000	56,000	42,000	35,400	9,247	12,800
GREAT PLAINS	**209,000**	**202,000**	**140,000**	**113,900**	**28,888**	**35,780**
West Virginia	14,000	18,800	8,000	9,350	3,484	4,420
Kentucky	48,000	50,700	28,000	30,400	14,718	19,500
Tennessee	47,000	54,500	25,500	24,000	12,037	15,500
Virginia	28,000	33,500	25,500	23,500	8,714	11,670
North Carolina	27,000	32,800	15,000	15,500	6,824	8,560
APPALACHIAN	**164,000**	**190,300**	**102,000**	**102,750**	**45,777**	**59,650**
South Carolina	12,500	10,550	7,500	5,890	2,471	3,150
Georgia	23,000	19,600	12,000	10,450	6,383	7,720
Florida	7,500	3,950	2,200	1,900	4,000	4,620
Alabama	19,000	17,900	7,300	7,480	5,367	6,600
SOUTHEAST	**62,000**	**52,000**	**29,000**	**25,720**	**18,221**	**22,090**
Mississippi	21,000	22,900	5,000	9,750	5,282	6,430
Louisiana	12,000	11,600	6,000	6,120	4,421	5,030
Arkansas	24,000	22,100	12,000	10,340	5,521	7,800
DELTA STATES	**57,000**	**56,600**	**23,000**	**26,210**	**15,224**	**19,260**
Oklahoma	37,000	33,700	22,000	19,500	7,703	11,000
Texas	48,000	49,200	21,000	22,500	19,487	25,800
SOUTHERN PLAINS	**85,000**	**82,900**	**43,000**	**42,000**	**27,190**	**36,800**
Montana	23,000	22,600	15,000	13,680	3,205	3,740
Idaho	27,000	22,200	23,000	16,300	3,367	3,970
Wyoming	10,500	6,350	6,000	5,120	1,179	1,500
Colorado	24,000	16,700	25,000	14,520	2,712	3,370
New Mexico	8,000	4,920	8,000	4,180	1,005	1,150
Arizona	4,500	2,100	3,700	1,390	427	465
Utah	11,700	11,700	12,000	9,240	2,257	3,125
Nevada	2,300	1,650	2,300	1,490	384	420
MOUNTAIN STATES	**111,000**	**88,220**	**95,000**	**65,920**	**14,536**	**17,740**
Washington	27,000	22,450	16,000	13,300	4,218	5,100
Oregon	23,000	21,000	15,000	11,800	3,634	4,820
California	33,000	25,100	22,000	13,900	3,590	3,850
PACIFIC	**83,000**	**68,550**	**53,000**	**39,000**	**11,442**	**13,770**
TOTAL	**1,615,000**	**1,535,000**	**1,400,000**	**1,030,000**	**376,440**	**488,000**

[1]Does not include windrowers with conditioning rolls.

Principal Machines on Farms—1980

STATE	POWER ELEVATORS Estimated Jan. 1, 1951 Number	POWER ELEVATORS Estimated Jan. 1, 1958 Number	POWER ELEVATORS Estimated July 1, 1980 Number	Manure Spreaders Estimated July 1, 1980 Number	Corn and Cotton Planters Estimated July 1, 1980 Number	Grain Drills Estimated July 1, 1980 Number
Maine			4,750	3,150	320	800
New Hampshire			2,230	1,950	280	60
Vermont	1,200	12,000	7,150	6,180	1,550	310
Massachusetts			3,220	2,310	860	110
Rhode Island			460	280	100	30
Connecticut			3,750	2,320	1,000	80
New York	7,200	35,000	62,300	39,500	19,200	25,200
New Jersey	2,000	5,500	5,500	2,440	2,330	2,300
Pennsylvania	9,600	38,000	66,300	41,500	32,300	38,000
Delaware	500	2,000	3,510	1,750	2,060	1,900
Maryland	2,500	7,500	14,600	8,450	8,300	8,500
NORTHEAST	**23,000**	**100,000**	**173,770**	**109,830**	**68,300**	**77,290**
Ohio	27,000	68,000	113,500	56,600	62,000	60,000
Indiana	30,000	66,000	112,700	50,600	63,500	48,800
Illinois	61,000	110,000	172,000	74,000	92,500	61,300
Iowa	80,000	122,000	180,500	100,400	103,000	57,300
Missouri	15,000	41,000	80,300	57,400	49,000	49,500
CORN BELT	**213,000**	**407,000**	**659,000**	**339,000**	**370,000**	**276,900**
Michigan	14,000	45,000	80,600	37,000	37,500	48,500
Wisconsin	15,000	48,000	127,000	84,000	66,000	61,500
Minnesota	46,000	90,000	142,000	77,300	79,500	71,500
LAKE STATES	**75,000**	**183,000**	**349,600**	**198,300**	**183,000**	**181,500**
North Dakota	28,000	45,000	68,800	20,970	15,000	56,500
South Dakota	24,000	40,000	61,200	29,300	30,100	32,000
Nebraska	36,000	60,000	94,800	45,200	44,500	41,000
Kansas	25,000	55,000	101,200	38,000	21,900	67,200
GREAT PLAINS	**113,000**	**200,000**	**326,000**	**133,470**	**111,500**	**196,700**
West Virginia	500	3,000	6,080	8,470	5,150	3,500
Kentucky	2,500	10,000	23,500	28,300	38,000	10,900
Tennessee	1,000	6,500	14,430	20,750	51,300	13,600
Virginia	2,000	11,000	18,200	22,100	25,800	16,500
North Carolina	1,000	7,500	19,600	21,400	72,500	22,000
APPALACHIAN	**7,000**	**38,000**	**81,810**	**101,020**	**192,750**	**66,500**
South Carolina	300	2,000	4,450	4,040	30,500	11,400
Georgia	900	6,000	13,300	6,740	38,500	9,800
Florida	300	1,500	3,530	1,170	5,900	1,700
Alabama	500	4,500	10,900	4,570	42,000	6,900
SOUTHEAST	**2,000**	**14,000**	**32,180**	**16,520**	**116,900**	**29,800**
Mississippi	700	4,500	7,470	5,160	52,300	8,100
Louisiana	400	1,000	2,450	2,950	19,600	7,300
Arkansas	900	4,500	9,150	7,200	21,500	13,000
DELTA STATES	**2,000**	**10,000**	**19,070**	**15,310**	**93,400**	**28,400**
Oklahoma	6,000	12,000	24,400	9,250	9,200	31,500
Texas	9,000	23,000	38,700	17,480	55,000	49,000
SOUTHERN PLAINS	**15,000**	**35,000**	**63,100**	**26,730**	**64,200**	**80,500**
Montana	7,500	17,500	27,000	10,900	1,090	21,000
Idaho	3,100	13,300	23,700	13,700	2,650	15,500
Wyoming	700	2,500	4,850	4,750	970	4,100
Colorado	7,000	13,000	24,300	14,100	6,200	15,500
New Mexico	500	1,500	2,500	2,310	3,150	1,930
Arizona	100	700	1,750	970	1,930	1,420
Utah	700	5,000	9,750	7,500	1,700	5,440
Nevada	400	500	920	1,100	60	320
MOUNTAIN STATES	**20,000**	**54,000**	**94,770**	**55,330**	**17,750**	**65,210**
Washington	2,000	8,000	21,000	14,550	1,850	12,500
Oregon	3,000	8,000	17,000	12,720	1,150	11,700
California	4,000	13,000	22,700	15,220	9,200	9,000
PACIFIC	**9,000**	**29,000**	**60,700**	**42,490**	**12,200**	**33,200**
TOTAL	**479,000**	**1,070,000**	**1,860,000**	**1,038,000**	**1,230,000**	**1,036,000**

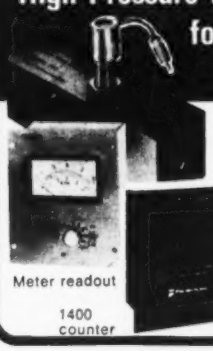
Principal Machines on Farms—1980

STATE	MOTOR TRUCKS 1954 Adj. Cen. 1,000's[1]	1959 Census 1,000's	1964 Census 1,000's	1969 Census 1,000's	1974 Census 1,000's	Estimated July 1, 1980 1,000's	Internal Combustion Engines[2] Estimated July 1, 1980 Number	Chain Saws Estimated July 1, 1980 Number
Maine	18.1	17.3	14.8	12.1	11.3	10.8	1,450	7,500
New Hampshire	8.3	6.8	5.6	4.0	3.7	3.5	1,350	2,500
Vermont	11.1	10.0	8.1	6.1	6.2	6.1	1,900	6,200
Massachusetts	14.3	12.3	10.6	8.4	7.7	7.2	1,950	4,550
Rhode Island	1.9	1.9	1.8	1.2	1.2	1.2	200	630
Connecticut	13.2	11.0	9.9	7.4	6.2	5.4	1,700	3,800
New York	70.5	66.5	62.9	53.6	53.6	53.0	22,500	49,850
New Jersey	24.4	20.9	17.3	14.3	12.9	12.2	2,500	6,000
Pennsylvania	71.0	71.4	69.5	57.3	55.5	54.5	22,000	43,530
Delaware	5.2	5.3	5.2	5.1	5.7	6.1	1,000	2,520
Maryland	22.0	21.2	21.3	19.5	21.3	22.2	4,900	12,200
NORTHEAST	**260.0**	**244.6**	**227.0**	**189.0**	**185.3**	**182.2**	**61,450**	**139,280**
Ohio	77.0	81.5	91.4	93.7	97.8	100.7	21,000	60,700
Indiana	77.4	88.2	99.0	100.1	103.9	106.5	21,700	65,600
Illinois	99.9	113.7	120.9	129.3	139.9	145.5	32,000	71,200
Iowa	84.3	99.8	106.7	121.4	137.1	146.5	34,000	56,500
Missouri	95.8	109.7	123.0	132.5	134.0	134.8	34,700	94,500
CORN BELT	**434.4**	**492.9**	**541.0**	**577.0**	**612.7**	**634.0**	**143,400**	**348,500**
Michigan	70.5	75.7	80.5	74.6	73.6	72.6	19,400	45,600
Wisconsin	87.0	90.6	97.0	89.0	92.3	93.5	36,000	92,500
Minnesota	90.0	103.4	112.5	116.9	130.1	137.4	50,000	66,000
LAKE STATES	**247.5**	**269.7**	**290.0**	**280.5**	**296.0**	**303.5**	**105,400**	**204,100**
North Dakota	66.8	75.5	81.6	91.2	101.3	105.0	37,000	4,300
South Dakota	47.7	52.3	56.5	57.8	65.1	68.1	25,000	3,300
Nebraska	72.0	83.4	93.1	96.4	108.5	115.8	33,500	14,000
Kansas	112.1	122.3	134.0	141.3	150.9	157.5	44,000	23,200
GREAT PLAINS	**298.6**	**333.5**	**365.2**	**386.7**	**425.8**	**446.4**	**139,500**	**44,800**
West Virginia	26.0	24.7	24.1	19.5	16.9	15.3	5,250	21,500
Kentucky	66.7	74.9	90.5	97.1	95.8	95.1	17,200	44,500
Tennessee	71.6	76.8	86.3	92.8	88.1	85.1	13,000	58,800
Virginia	57.5	58.0	59.2	55.9	55.5	54.5	12,600	48,800
North Carolina	84.5	91.1	101.1	99.3	93.5	89.8	16,600	87,500
APPALACHIAN	**306.3**	**325.5**	**361.2**	**364.6**	**349.8**	**339.8**	**64,650**	**261,100**
South Carolina	39.2	39.1	39.0	35.3	33.7	32.3	6,500	24,600
Georgia	76.2	72.8	76.6	70.9	69.2	67.7	13,500	34,000
Florida	36.6	36.4	40.6	37.8	40.1	41.8	13,000	7,750
Alabama	63.7	63.4	69.5	67.4	64.4	62.5	11,000	32,000
SOUTHEAST	**215.7**	**211.7**	**225.7**	**211.4**	**207.4**	**204.3**	**44,000**	**98,350**
Mississippi	76.2	71.5	75.1	66.4	60.5	57.3	10,700	37,800
Louisiana	47.3	47.2	51.3	44.7	41.6	39.6	12,000	20,700
Arkansas	76.2	73.2	80.6	71.4	69.5	68.0	14,400	31,700
DELTA STATES	**199.7**	**191.9**	**207.0**	**182.5**	**171.6**	**164.9**	**37,100**	**90,200**
Oklahoma	85.7	92.7	105.1	106.8	101.6	98.0	21,700	10,300
Texas	187.8	197.8	211.0	227.6	208.1	195.0	61,500	20,000
SOUTHERN PLAINS	**273.5**	**290.5**	**316.1**	**334.4**	**309.7**	**293.0**	**83,200**	**30,300**
Montana	48.5	52.8	58.2	58.3	61.9	63.7	19,500	12,250
Idaho	38.7	44.0	48.3	47.1	51.4	53.7	16,000	13,600
Wyoming	15.0	16.2	17.7	18.4	19.2	19.8	6,400	3,310
Colorado	48.5	51.7	55.9	55.5	56.9	58.0	20,200	6,250
New Mexico	21.3	20.3	23.4	18.8	20.0	20.6	7,700	3,130
Arizona	13.5	16.8	17.2	12.1	14.4	16.2	5,100	530
Utah	18.0	18.8	20.3	18.3	19.4	20.5	6,600	2,470
Nevada	3.9	4.5	4.5	5.0	5.4	5.7	1,500	630
MOUNTAIN STATES	**207.4**	**225.1**	**245.5**	**233.5**	**248.6**	**258.2**	**83,000**	**42,170**
Washington	55.4	60.2	64.2	56.7	57.1	57.4	16,800	23,500
Oregon	47.7	48.9	53.6	46.2	49.6	51.8	21,500	26,700
California	128.8	131.0	126.1	115.7	118.8	121.5	63,000	33,000
PACIFIC	**231.9**	**240.1**	**243.9**	**218.6**	**225.5**	**230.7**	**101,300**	**83,200**
TOTAL	**2,675.0**	**2,825.5**	**3,022.6**	**2,978.2**	**3,032.4**	**3,057.0**	**863,000**	**1,342,000**

[1]Census numbers have been adjusted to bring them more in line with 1959 and later data based on the new definition of a farm.

[2]Includes engines used for stationary work such as irrigation, auxiliary engines on combines, balers, etc., and a small number of power units not elsewhere classified.

High Pressure Flow Meter for oils, fuels, liquids



Low cost turbine flow meter – reads flow of hydraulic circuits, test stands, machine tools, etc. Flow – 1-200 GPM. Max – 5000 PSI

Meter readout

1400 counter

Send for Bulletins 104 and 304

Circle (25) on Reply Card

Universal hydraulic test unit measures GPM, PSI, °F, RPM –

all from one point in the system. Can be switched instantly to remote sensors for GPM, RPM, °F ratings – even when no hydraulic tests are being performed.

Send for Bulletin 202

Circle (26) on Reply Card

Flo-tech, Inc.

403 S. Washington Blvd., Mundelein, Illinois 60060. Phone 312 566-9120

When you make it with **HKK** Chain

YOU'VE GOT IT MADE!

HKK makes it easy to — Make it FAST . . . to LAST!

• Big Chain Selection • Sizes from ¼" to 8" Pitch • Conveyor/Transmission • Engineering Class • Welded Steel Mill • Riveted or Cottered • Meets and exceeds Industry Standards • Most Orders filled and Shipped Same Day • 7 Warehouses across the nation

Free Quotations/Literature/Price List

Write or Call Today! 800/631-1056

SERVICE CHAIN/DRIVES

(DIVISION OF HKK CHAIN CORPORATION OF AMERICA)

NATIONAL SALES OFFICE 3330 OLD GLENVIEW ROAD SUITE 4 • WILMETTE IL 60091 • 312/256-7733 • TELEX 206-145

NEW JERSEY OFFICE & WAREHOUSE 9 RIVERSIDE DRIVE. 800/631-1056 • PINE BROOK N.J. 07058 • PHONE 201/575-7860

Circle (68) on Reply Card

AMERICAN LUNG ASSOCIATION

The Christmas Seal People®

State	40-49	50-59	60-69	70-79	80-89	90-99	100-119
Alabama	717	361	272	136	285	54	264
Arizona	75	36	56	46	74	26	113
Arkansas	848	407	301	69	141	23	126
California	668	794	1,045	490	487	84	329
Colorado	101	79	94	28	62	20	98
Connecticut	34	37	52	17	15	5	12
Delaware	26	35	48	4	25	.....	35
Florida	403	288	522	248	298	60	181
Georgia	761	330	409	212	319	67	301
Idaho	70	102	138	33	139	31	163
Illinois	311	310	477	319	393	78	808
Indiana	273	301	362	195	346	35	521
Iowa	147	215	619	382	654	159	1,562
Kansas	127	118	217	131	225	89	616
Kentucky	1,130	959	671	336	448	60	240
Louisiana	536	241	272	92	106	21	125
Maine	50	51	41	9	22	5	33
Maryland	161	105	125	42	85	31	114
Massachusetts	26	43	41	9	9	7	6
Michigan	332	364	426	194	308	79	392
Minnesota	126	245	742	321	625	136	1,150
Mississippi	611	332	272	128	252	23	203
Missouri	566	582	697	334	519	106	581
Montana	55	75	113	48	109	21	139
Nebraska	44	61	169	67	265	119	880
Nevada	13	21	15	3	19	1	13
N. Hampshire	55	38	24	5	7	4	5
New Jersey	68	50	47	18	51	3	23
New Mexico	86	46	27	21	23	6	62
New York	330	351	577	203	423	85	394
North Carolina	1,092	538	513	255	513	68	306
North Dakota	33	45	70	42	85	30	371
Ohio	519	498	594	246	470	88	613
Oklahoma	569	251	246	99	225	68	453
Oregon	313	259	167	64	114	26	116
Pennsylvania	340	375	489	144	376	65	316
Rhode Island	10	6	5	1	2	1	1
South Carolina	455	228	214	148	173	27	133
South Dakota	22	43	135	58	159	59	587
Tennessee	1,026	622	429	220	337	50	270
Texas	1,990	985	934	482	732	101	788
Utah	84	141	121	29	99	18	93
Vermont	39	75	100	31	73	5	31
Virginia	742	415	358	140	299	45	218
Washington	510	458	205	47	120	29	79
West Virginia	257	153	94	20	40	5	15
Wisconsin	206	479	1,167	498	852	125	1,063
Wyoming	26	57	52	21	54	12	67
Alaska	7	13	3	.....	1	.....	.....
Hawaii	25	8	7	3	1	3	3
U.S. Government	29	.....	14	102	.....	7	2
Miscellaneous	11	6	.....	.....	1	5	8
TOTAL	**17,055**	**12,632**	**14,788**	**6,790**	**11,460**	**2,275**	**15,022**

1979 Retail Sales of Farm Wheel Tractors by PTO Horsepower and State

(in units)

Two-Wheel-Drive Tractors							Four-Wheel-Drive Tractors					
120-129	130-139	140-149	150-159	160-179	180 & over	Total 2-Wheel Drive	Under 200	200-249	250 & over	Total 4-Wheel Drive	All Farm Wheel Tractors	State
40	285	50	81	51	58	2,654	16	20	12	48	2,702	Alabama
16	87	17	52	24	65	687	23	64	23	110	797	Arizona
62	495	209	372	227	428	3,708	58	196	51	305	4,013	Arkansas
63	296	48	140	95	136	4,675	111	222	80	413	5,088	California
25	233	46	104	47	72	1,009	77	78	29	184	1,193	Colorado
1	10	2	1	1	.....	187	2	.....	.....	2	189	Connecticut
11	31	3	7	5	6	236	5	11	3	19	255	Delaware
18	132	17	30	25	25	2,247	29	57	8	94	2,341	Florida
90	633	123	164	91	163	3,663	7	31	16	54	3,717	Georgia
56	189	53	75	20	14	1,083	63	87	30	180	1,263	Idaho
241	1,858	428	568	439	490	6,720	404	388	139	931	7,651	Illinois
154	1,046	224	291	260	270	4,278	235	231	106	572	4,850	Indiana
348	2,732	741	546	398	364	8,867	408	311	85	804	9,671	Iowa
286	1,095	200	379	318	361	4,162	285	321	56	662	4,824	Kansas
37	260	29	73	52	74	4,369	52	48	10	110	4,479	Kentucky
38	227	178	205	173	312	2,526	60	112	32	204	2,730	Louisiana
1	14	.....	1	.....	.....	227	2	.....	.....	2	229	Maine
17	66	19	13	9	13	800	17	14	11	42	842	Maryland
.....	2	.....	1	.....	.....	144	.....	.....	.....	.....	144	Massachusetts
75	491	75	80	78	65	2,959	154	112	31	297	3,256	Michigan
238	1,520	278	318	234	174	6,107	530	361	98	989	7,096	Minnesota
53	438	137	358	232	321	3,360	36	85	60	181	3,541	Mississippi
208	878	185	238	178	203	5,275	122	127	51	300	5,575	Missouri
51	150	19	57	31	43	911	178	193	76	447	1,358	Montana
215	1,418	394	359	218	209	4,418	164	138	40	342	4,760	Nebraska
.....	20	.....	12	2	4	123	7	2	2	11	134	Nevada
.....	5	.....	.....	1	.....	145	1	.....	.....	1	146	N. Hampshire
4	23	7	3	6	3	306	8	.....	1	9	315	New Jersey
6	93	9	21	16	20	436	11	14	2	27	463	New Mexico
45	243	33	24	17	11	2,736	99	34	11	144	2,880	New York
57	287	82	77	66	91	3,945	34	25	18	77	4,022	North Carolina
188	749	204	238	172	194	2,421	477	517	147	1,141	3,562	North Dakota
144	768	187	133	155	161	4,576	213	163	52	428	5,004	Ohio
147	752	92	172	176	134	3,384	180	247	35	462	3,846	Oklahoma
22	112	24	35	22	10	1,284	57	30	14	101	1,385	Oregon
46	180	24	17	24	14	2,407	30	13	4	47	2,454	Pennsylvania
.....	.....	.....	.....	.....	.....	26	.....	.....	.....	.....	26	Rhode Island
29	192	40	56	39	71	1,805	18	17	11	46	1,851	South Carolina
142	681	131	156	112	67	2,352	205	123	32	360	2,712	South Dakota
55	409	81	131	93	158	3,881	23	31	29	83	3,964	Tennessee
262	1,881	493	502	481	512	10,143	243	302	96	641	10,784	Texas
16	57	10	13	7	5	693	8	8	2	18	711	Utah
5	23	7	.....	5	.....	394	10	.....	.....	10	404	Vermont
29	157	25	20	20	27	2,495	7	8	6	21	2,516	Virginia
7	112	10	49	12	11	1,649	71	98	33	202	1,851	Washington
3	6	.....	1	.....	.....	594	.....	.....	.....	.....	594	West Virginia
185	736	158	111	85	103	5,768	183	68	31	282	6,050	Wisconsin
17	76	11	13	8	5	419	20	16	7	43	462	Wyoming
1	.....	.....	.....	2	.....	27	.....	1	.....	1	28	Alaska
.....	.....	1	1	.....	.....	52	.....	.....	4	4	56	Hawaii
.....	1	.....	.....	.....	.....	155	.....	.....	.....	.....	155	U.S. Government
.....	7	2	3	1	1	45	1	2	1	4	49	Miscellaneous
3,754	**22,156**	**5,106**	**6,301**	**4,728**	**5,468**	**127,535**	**4,944**	**4,926**	**1,585**	**11,455**	**138,990**	**TOTAL**

DATA: Farm & Industrial Equipment Institute. Figures do not include garden tractors, motor tillers, or contractor's off-highway types. Report includes units marketed by these firms: Allied Farm Equip. (Leyland, Satoh); Allis-Chalmers; Belarus; J I Case; Deere; Deutz; Ford; International Harvester; Long; Massey-Ferguson; Rome Industries; Steiger; Versatile; R. M. Wade (Satoh); and White. Sales reported as miscellaneous are retail sales which cannot be classified by state or as U.S. Government. They include sales and dispositions that do not go through usual marketing channels such as gifts to non-profit organizations, intra-plant or company transfers, etc.

RETAIL SALES OF SELECTED FARM EQUIPMENT—Jan.-Dec., 1978 and 1979 (1)

(In Units)

	Combines Self-Propelled		Corn Heads		Hay Balers (2)		Windrowers Self-Propelled Power Units		Windrowers Self-Propelled Total Heads		Grinder-Mixers		Shear-Bar Forage Harvesters (3)	
	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979
Alabama	539	504	161	107	378	252	1	1	1	1	220	231	64	63
Arizona	47	35	10	5	36	43	77	63	82	69	7	4	10	16
Arkansas	1,045	1,123	6	11	524	427	2	2	1	1	65	62	21	28
California	253	237	75	65	210	244	302	300	322	327	6	15	84	80
Colorado	249	316	132	166	422	507	257	284	257	289	54	70	162	195
Connecticut	1	2	2	1	76	67	1	.....	1	.....	1	2	40	68
Delaware	50	55	40	37	34	18	3	.....	3	.....	7	12	14	15
Florida	165	148	93	76	140	113	.....	3	.....	3	69	64	34	26
Georgia	725	764	575	532	365	244	5	1	5	1	520	542	139	133
Idaho	360	371	15	12	530	505	302	357	311	369	30	48	64	74
Illinois	3,600	3,305	3,549	3,533	414	399	30	15	30	15	748	679	354	365
Indiana	2,048	1,964	2,075	2,095	498	422	17	12	17	12	599	605	281	263
Iowa	3,665	3,474	3,866	4,191	486	459	265	262	272	257	1,893	2,062	954	930
Kansas	1,605	1,851	384	425	448	495	359	411	367	421	314	363	283	348
Kentucky	508	579	411	412	669	455	5	3	5	4	302	345	258	235
Louisiana	657	650	8	2	184	164	1	.....	1	.....	15	17	24	26
Maine	8	2	.....	.....	94	89	.....	3	.....	3	.....	1	36	63
Maryland	171	161	175	171	169	137	12	8	13	7	46	51	88	123
Massachusetts	.....	.....	1	.....	61	59	1	1	1	.....	4	1	32	38
Michigan	562	609	532	592	583	483	72	81	72	85	270	273	527	
Minnesota	2,110	2,085	1,813	2,004	1,111	971	859	781	888	804	725	918	1,096	1,199
Mississippi	806	891	20	10	262	209	.....	.....	.....	.....	76	70	71	76
Missouri	1,575	1,676	868	939	751	685	92	87	98	89	583	667	205	217
Montana	456	393	1	5	464	413	569	511	624	551	65	87	68	48
Nebraska	1,738	1,845	1,605	1,816	278	257	457	518	474	525	522	633	428	486
Nevada	7	4	.....	.....	52	59	66	76	71	77	1	2	7	6
New Hampshire	.....	.....	.....	.....	55	59	1	1	1	1	.....	2	29	39
New Jersey	68	48	32	17	78	65	3	.....	3	.....	12	14	38	32
New Mexico	21	32	9	12	187	166	98	99	97	99	13	19	9	11
New York	171	179	204	287	882	812	83	74	85	74	174	133	913	1,054
North Carolina	591	662	544	530	569	327	2	3	2	3	252	257	143	141
North Dakota	1,182	1,383	67	86	145	96	1,063	922	1,130	986	124	194	144	155
Ohio	1,655	1,654	1,450	1,582	904	709	17	14	17	14	498	538	356	391
Oklahoma	461	620	22	15	743	907	152	168	155	172	141	187	39	61
Oregon	248	220	15	13	389	335	348	260	365	265	25	37	95	87
Pennsylvania	272	283	303	305	1,141	977	88	89	87	90	323	350	689	789
Rhode Island	.....	.....	.....	.....	6	6	.....	.....	.....	.....	.....	1	7	1
South Carolina	355	384	199	194	178	102	.....	.....	.....	.....	120	127	41	38
South Dakota	712	725	497	540	272	183	821	784	863	842	340	429	415	485
Tennessee	686	692	254	223	804	610	2	1	2	1	281	289	227	229
Texas	897	966	276	278	1,369	1,445	98	119	104	132	231	270	60	86
Utah	49	41	13	15	339	329	156	156	159	158	70	78	94	97
Vermont	.....	.....	2	.....	132	132	2	1	2	1	2	3	131	177
Virginia	216	259	181	221	610	488	9	7	9	7	145	165	283	259
Washington	328	381	24	71	367	348	187	213	191	226	29	20	130	104
West Virginia	4	3	5	6	373	265	.....	.....	.....	.....	32	36	56	58
Wisconsin	575	611	669	755	2,069	1,988	377	397	381	401	570	661	2,303	2,457
Wyoming	52	52	13	16	229	214	188	203	196	212	18	33	36	52
Alaska	.....	6	.....	.....	6	9	.....	.....	.....	.....	.....	.....	1	.....
Hawaii	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	1	.....
U.S. Government	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miscellaneous (4)	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
TOTAL	**31,494**	**32,246**	**21,196**	**22,374**	**21,088**	**18,750**	**7,450**	**7,291**	**7,763**	**7,594**	**10,544**	**11,673**	**11,523**	**12,451**

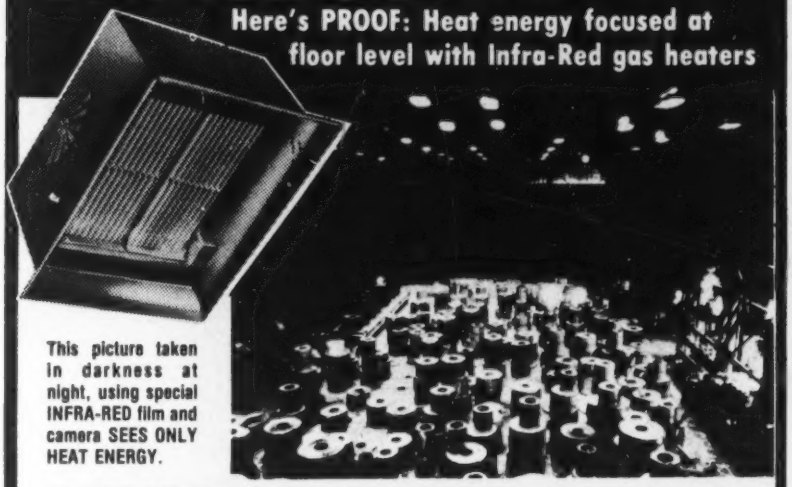
Data released Feb. 21, 1980, Farm & Industrial Equipment Institute.

(1) Includes revisions for prior months.
(2) For making bales of under 200 lbs.
(3) Pull-type, mounted, self-propelled.
(4) Sales reported as miscellaneous are retail sales which cannot be classified by state or as U.S. Government. They include sales and dispositions that do not go through usual marketing channels such as gifts to non-profit organizations, intra-plant or company transfers, etc.

Mower Conditioners All Types 1978	1979	Manure Spreaders Conveyor-Type 1978	1979	
264	242	20	18	Alabama
4	6	9	9	Arizona
520	574	101	115	Arkansas
54	49	69	86	California
125	166	42	71	Colorado
93	90	86	85	Connecticut
31	18	64	73	Delaware
141	124	28	30	Florida
340	279	36	51	Georgia
135	123	144	137	Idaho
782	773	1,128	916	Illinois
728	709	766	717	Indiana
,501	1,480	2,409	2,391	Iowa
715	1,010	219	263	Kansas
,235	1,217	303	316	Kentucky
118	126	21	26	Louisiana
115	121	116	119	Maine
174	182	242	230	Maryland
86	81	67	76	Massachusetts
949	786	828	824	Michigan
,309	1,474	1,849	1,995	Minnesota
202	198	28	31	Mississippi
,627	1,787	384	441	Missouri
137	129	64	50	Montana
462	623	442	549	Nebraska
3	12	7	7	Nevada
83	70	62	53	New Hampshire
97	80	58	63	New Jersey
38	38	3	8	New Mexico
,258	1,265	1,732	1,649	New York
489	389	171	166	North Carolina
131	172	190	114	North Dakota
,284	1,121	1,028	1,033	Ohio
705	960	29	36	Oklahoma
251	201	107	135	Oregon
,329	1,252	1,367	1,429	Pennsylvania
6	6	3	1	Rhode Island
174	141	32	32	South Carolina
122	147	305	362	South Dakota
866	943	162	188	Tennessee
,367	1,548	136	153	Texas
191	168	157	106	Utah
248	253	261	282	Vermont
676	762	247	261	Virginia
204	156	122	150	Washington
228	250	88	99	West Virginia
,208	3,202	3,132	3,103	Wisconsin
151	74	47	54	Wyoming
1	2	1	1	Alaska
.....	1	.....	2	Hawaii
.....	.....	.....	.....	U.S. Government
.....	.....	1	1	Miscellaneous
,957	25,600	18,913	19,107	TOTAL

Can You See HEAT?

Here's PROOF: Heat energy focused at floor level with Infra-Red gas heaters



This picture taken in darkness at night, using special INFRA-RED film and camera SEES ONLY HEAT ENERGY.

Go RE-VERBER-RAY..Cut Fuel Costs up to 50%

RE-VERBER-RAY

Write for our newest brochure

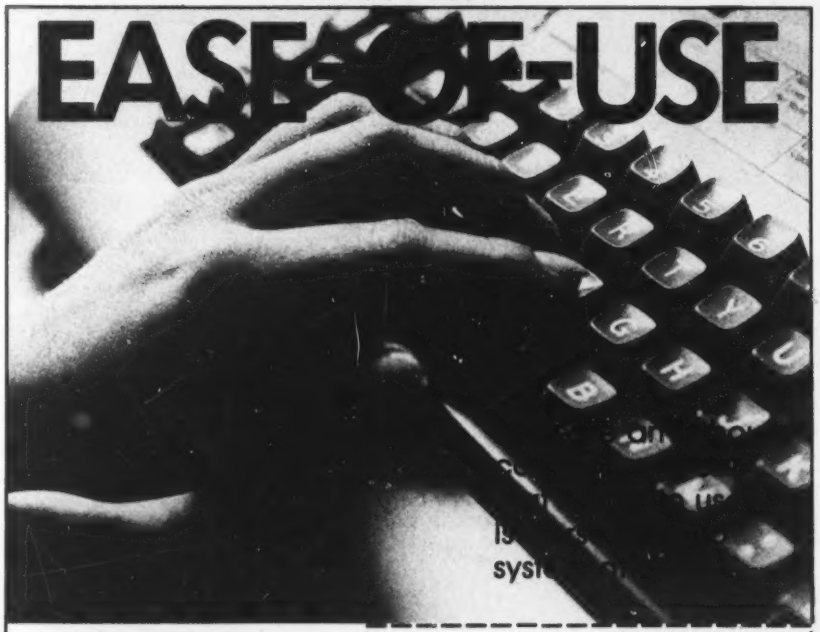
Due to the high cost of energy, the heating of most large factories and commercial buildings with infra-red is really the most economical method available. Maximum heat at the floor level is what infra-red is all about.

Call collect for a free heating survey...No obligation.

DETROIT RADIANT PRODUCTS CO.

1297 Terminal Ave. Detroit, Michigan 48214 (313) 823-1074

Circle (27) on Reply Card



DEALER INFORMATION SYSTEMS CORPORATION

DIS

INFORMATION MANAGEMENT PROFESSIONALS

YES! I WANT AN IN-HOUSE SYSTEM THAT'S EASY TO USE.

Name_____

Dealership_____

Address_____

City/State_____

Zip_____ Phone_____

DIS Corporation, 1308 Meador, Suite C-8
Bellingham, Washington 98225, (206) 733-7610

Circle (28) on Reply Card

RETAIL SALES OF WHEEL TRACTORS*

(In Units)

	Total Wheel Tractors†				Cumulative for Jan.-July, 1979				Cumulative for Jan.-July, 1980			
	July 1979		July 1980		Farm Type				Farm Type			
	Farm	Non-Farm	Farm	Non-Farm	2-Wheel Drive	4-Wheel Drive	Total Farm	Non-Farm	2-Wheel Drive	4-Wheel Drive	Total Farm	Non-Farm
Alabama	154	45	180	28	1,825	29	1,854	403	1,481	51	1,532	236
Alaska	1	2	1	6	9	.....	9	25	11	6	17	19
Arizona	53	60	50	49	415	55	470	403	468	58	526	283
Arkansas	276	46	222	42	2,408	154	2,562	429	2,031	213	2,244	308
California	373	270	452	288	2,795	195	2,990	2,267	2,557	214	2,771	1,607
Colorado	77	50	151	69	636	109	745	421	662	118	780	391
Connecticut	12	18	24	17	124	.....	124	167	167	3	170	117
Delaware	23	7	8	8	157	11	168	36	100	5	105	25
Florida	166	81	281	106	1,281	42	1,323	1,086	1,466	46	1,512	691
Georgia	190	72	307	64	2,565	27	2,592	567	2,040	33	2,073	321
Hawaii	7	9	8	3	36	4	40	61	36	1	37	58
Idaho	78	18	117	11	635	95	730	122	620	73	693	87
Illinois	278	107	406	78	4,336	461	4,797	1,059	2,871	446	3,317	479
Indiana	186	80	305	39	2,730	283	3,013	598	1,775	271	2,046	289
Iowa	405	36	474	15	5,845	366	6,211	-293	3,248	329	3,577	172
Kansas	377	51	458	29	2,436	385	2,821	236	2,024	433	2,457	217
Kentucky	273	70	355	42	3,050	56	3,106	523	2,563	45	2,608	292
Louisiana	178	66	255	52	1,598	101	1,699	564	1,667	162	1,829	362
Maine	19	16	44	4	135	1	136	94	152	2	154	56
Maryland	53	41	45	27	537	23	560	325	428	24	452	188
Massachusetts	11	26	30	27	96	.....	96	208	99	.....	99	155
Michigan	154	107	220	88	1,811	152	1,963	888	1,392	138	1,530	486
Minnesota	343	52	325	21	3,925	565	4,490	473	2,157	329	2,486	236
Mississippi	221	32	245	43	2,270	83	2,353	429	2,050	167	2,217	235
Missouri	301	88	312	50	3,464	160	3,624	608	2,305	144	2,449	355
Montana	123	10	150	24	595	294	889	121	708	166	874	138
Nebraska	207	40	226	16	2,947	197	3,144	179	1,947	225	2,172	107
Nevada	9	11	17	10	87	3	90	121	77	7	84	78
New Hampshire	16	5	11	14	82	1	83	73	82	.....	82	54
New Jersey	15	52	28	55	209	5	214	438	184	2	186	293
New Mexico	40	25	32	24	301	19	320	182	266	15	281	137
New York	193	86	267	100	1,627	68	1,695	728	1,498	61	1,559	542
North Carolina	208	56	281	67	2,712	48	2,760	632	2,054	31	2,085	389
North Dakota	202	17	138	11	1,614	784	2,398	150	797	419	1,216	82
Ohio	233	105	299	82	2,909	220	3,129	1,094	2,194	213	2,407	516
Oklahoma	480	65	420	97	2,073	263	2,336	451	1,633	238	1,871	379
Oregon	128	46	148	30	751	40	791	354	810	43	853	224
Pennsylvania	173	97	194	111	1,526	27	1,553	903	1,344	36	1,380	631
Rhode Island	3	.....	2	1	15	.....	15	27	11	.....	11	27
South Carolina	120	24	111	44	1,273	24	1,297	301	965	32	997	213
South Dakota	140	18	165	5	1,548	207	1,755	132	868	139	1,007	52
Tennessee	258	79	273	62	2,760	48	2,808	606	1,964	57	2,021	258
Texas	895	343	1,072	345	5,980	309	6,289	2,542	5,725	355	6,080	2,131
Utah	67	39	52	34	410	10	420	283	383	17	400	197
Vermont	26	7	53	5	227	5	232	49	201	.....	201	21
Virginia	176	48	178	54	1,611	7	1,618	468	1,371	19	1,390	343
Washington	142	62	195	32	1,004	117	1,121	556	1,095	98	1,193	260
West Virginia	56	16	45	20	376	.....	376	145	316	.....	316	126
Wisconsin	298	51	393	53	3,817	135	3,952	493	2,803	122	2,925	292
Wyoming	43	24	44	17	273	23	296	157	204	24	228	100
U.S. Government	10	11	68	154	59	.....	59	460	138	.....	136	537
Miscellaneous‡	1	134	38	60	43	3	46	918	228	.....	228	424
TOTAL	**8,471**	**2,921**	**10,175**	**2,735**	**81,948**	**6,214**	**88,162**	**24,849**	**64,236**	**5,630**	**69,866**	**16,219**

Data released September 26, 1980. Farm & Industrial Equipment Institute.

*Figures do not include garden tractors, motor tillers or contractors off-highway types. Report includes units marketed by these firms: Allied Farm Equip. (Leyland Satoh); Allis-Chalmers; Belarus; J I Case; Deere; Deutz; Ford; International Harvester; Long; Massey-Ferguson; R. M. Wade (Satoh); Steiger; Versatile; and White.

‡Sales reported as miscellaneous are retail sales which cannot be classified by state or as U.S. Government. They include sales and dispositions that do not go through usual marketing channels such as gifts to non-profit organizations, intra-plant or company transfers, etc.

RETAIL SALES OF SELECTED FARM EQUIPMENT — Jan.-July, 1979 and 1980 (1)

(In Units)

	Combines Self-Propelled		Corn Heads		Hay Balers (2)		Windrowers Self-Propelled — Power Units		Windrowers Self-Propelled — Total Heads		Grinder-Mixers		Shear-Bar Forage Harvesters (3)	
	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
Alabama	119	85	32	22	147	87	.....	2	.....	1	148	88	25	6
Alaska	.....	2	.....	.....	3	10	.....	.....	.....	.....	.....	1	.....	.....
Arizona	18	34	.....	.....	24	28	40	47	43	57	4	6	8	6
Arkansas	208	185	1	.....	300	138	2	.....	1	.....	41	47	12	4
California	108	150	21	13	128	110	156	185	176	206	11	3	31	34
Colorado	172	189	38	46	274	242	175	132	178	142	49	44	36	31
Connecticut	1	.....	.....	.....	44	42	.....	.....	.....	.....	2	.....	14	11
Delaware	13	13	9	9	11	7	.....	1	.....	1	8	7	4	5
Florida	42	37	34	27	56	42	1	.....	1	.....	45	28	8	14
Georgia	241	174	169	121	160	110	1	1	1	1	339	176	49	37
Hawaii	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Idaho	135	99	4	8	296	403	221	240	222	239	25	37	19	34
Illinois	1,194	838	873	790	278	236	11	15	11	15	463	330	148	111
Indiana	683	501	543	522	291	203	7	6	7	6	426	241	96	85
Iowa	1,105	908	798	910	300	190	188	93	190	98	1,516	785	376	254
Kansas	1,118	1,144	80	135	345	207	282	204	290	206	245	160	103	101
Kentucky	177	115	85	70	345	202	3	3	4	3	232	223	62	57
Louisiana	169	110	.....	3	87	31	.....	.....	.....	.....	12	12	8	11
Maine	1	2	.....	.....	63	46	3	2	3	2	1	.....	23	17
Maryland	45	56	32	53	88	80	6	8	6	8	34	27	34	29
Massachusetts	.....	.....	.....	.....	30	33	1	6	.....	6	1	1	10	7
Michigan	208	145	124	124	271	210	49	41	51	42	181	157	206	176
Minnesota	669	461	437	350	620	464	444	349	454	358	682	372	488	341
Mississippi	199	155	3	1	102	46	.....	1	.....	1	36	25	29	29
Missouri	461	389	173	184	497	322	65	51	65	54	477	346	90	56
Montana	138	192	2	2	251	210	307	215	317	228	55	45	17	17
Nebraska	562	592	282	407	172	125	359	188	370	197	457	341	148	117
Nevada	.....	1	.....	.....	29	28	48	27	51	30	1	2	2	7
New Hampshire	.....	.....	.....	.....	29	40	.....	.....	.....	.....	2	.....	8	8
New Jersey	17	10	6	8	46	21	.....	.....	.....	.....	11	6	6	8
New Mexico	13	19	.....	5	89	82	64	42	64	44	17	9	3	.....
New York	43	44	50	67	477	471	42	44	42	45	83	81	288	318
North Carolina	177	116	97	102	240	204	3	2	3	2	166	104	31	30
North Dakota	517	357	10	14	59	29	529	236	553	248	141	89	40	38
Ohio	605	446	421	344	473	327	10	6	10	6	384	259	114	119
Oklahoma	372	355	2	6	647	306	125	77	128	83	111	84	28	16
Oregon	88	89	.....	4	215	292	149	149	150	157	26	19	41	22
Pennsylvania	111	69	68	84	652	491	56	36	55	40	237	202	248	235
Rhode Island	.....	.....	.....	.....	3	3	.....	.....	.....	.....	1	.....	.....	1
South Carolina	115	76	42	34	68	49	.....	.....	.....	.....	80	44	16	15
South Dakota	225	229	91	88	106	52	551	325	589	352	274	217	127	100
Tennessee	193	126	40	52	475	314	.....	1	.....	1	187	137	73	43
Texas	535	586	117	128	994	434	81	65	90	71	179	138	41	53
Utah	17	12	.....	1	200	228	87	71	88	72	55	21	28	29
Vermont	.....	.....	.....	.....	77	83	.....	2	.....	2	2	.....	54	65
Virginia	80	54	62	44	379	305	5	6	5	6	112	65	58	62
Washington	196	175	25	13	187	298	133	119	138	118	15	14	52	64
West Virginia	2	.....	3	.....	199	109	.....	.....	.....	.....	20	18	12	2
Wisconsin	99	141	111	173	1,257	917	259	234	282	236	456	344	1,061	938
Wyoming	23	25	2	1	131	107	97	96	103	96	19	14	10	10
U.S. Government	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miscellaneous (4)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....
TOTAL	**11,215**	**9,506**	**4,887**	**4,966**	**12,215**	**9,014**	**4,560**	**3,330**	**4,721**	**3,480**	**8,073**	**5,369**	**4,385**	**3,775**

Data released September 26, 1980, Farm & Industrial Equipment Institute.

(1) Includes revisions for prior months.
(2) For making bales of under 200 lbs.
(3) Pull-type, mounted, self-propelled.
(4) Sales reported as miscellaneous are retail sales which cannot be classified by state or as U.S. Government. They include sales and dispositions that do not go through usual marketing channels such as gifts to non-profit organizations, intra-plant or company transfers, etc.

Mower Conditioners All Types 1979	Mower Conditioners All Types 1980	Manure Spreaders Conveyor-Type 1979	Manure Spreaders Conveyor-Type 1980	
161	95	11	15	Alabama
.....	2	1	1	Alaska
4	8	6	6	Arizona
431	258	86	70	Arkansas
37	30	53	26	California
98	95	53	49	Colorado
59	64	61	49	Connecticut
12	14	52	43	Delaware
53	33	17	19	Florida
181	164	34	33	Georgia
1	.....	1	1	Hawaii
74	96	80	69	Idaho
531	402	740	401	Illinois
505	329	524	314	Indiana
1,035	685	1,862	873	Iowa
696	374	201	152	Kansas
924	609	252	210	Kentucky
66	31	19	18	Louisiana
85	64	93	68	Maine
119	72	156	158	Maryland
52	36	51	49	Massachusetts
481	399	576	486	Michigan
1,046	681	1,355	816	Minnesota
109	53	23	11	Mississippi
1,326	892	356	232	Missouri
89	89	37	34	Montana
438	306	428	268	Nebraska
7	4	2	5	Nevada
36	47	39	40	New Hampshire
56	36	46	35	New Jersey
14	11	4	5	New Mexico
724	733	995	832	New York
273	172	119	104	North Carolina
136	70	82	66	North Dakota
783	526	771	545	Ohio
688	444	24	41	Oklahoma
137	197	76	71	Oregon
761	618	979	824	Pennsylvania
5	2	1	.....	Rhode Island
101	53	24	22	South Carolina
113	44	255	135	South Dakota
708	436	146	129	Tennessee
1,077	749	105	99	Texas
104	105	69	79	Utah
149	136	197	144	Vermont
570	539	171	158	Virginia
111	167	99	88	Washington
169	117	72	42	West Virginia
2,020	1,573	2,152	1,319	Wisconsin
27	23	42	29	Wyoming
.....	.....	.....	.....	U.S. Government
.....	.....	1	.....	Miscellaneous
17,382	12,683	13,599	9,283	TOTAL

SDT-27 shown with scissor adaptor to support axle housing.

Safety Versatility Time

Three good reasons to have Cofer Tire Carts in your shop

Model T-21
- single tires
- 6" casters
- with or without axle housing
- 6,000 lb. capacity

Models SDT-25 SDT-27
- dual or single tires
- 6" casters
- telescoping legs
- adjustable tire support
- 8,000 lb. capacity

Cofer Sales has the right heavy-duty tire cart for your shop. Three models are built to adapt to any size tire. And all three can be hooked up in minutes—by one man. That saves time...and money. Cofer Tire Carts are the safest way to handle tractor tires. For complete information on these and our complete line of shop equipment call or write:

Cofer Sales & Mfg. Co.

206 S. 2nd St., Dodge City, Ks. 67801, (316) 227-6170

Distributorships/Dealerships available in some parts of U.S. and Canada.

Circle (30) on Reply Card

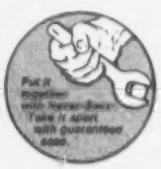
prevent seizure, galling and wear

SAVE ON MAINTENANCE COSTS

NEVER-SEEZ® ANTI-SEIZE and LUBRICATING COMPOUND

Application of NEVER-SEEZ to threaded, mated and driven metal parts assures absolute parts protection to:
- **Prevent seizure to 2000°F**
- **Stop galvanic pitting and corrosion**
- **Eliminate galling and carbon fusion**
- **Reduce friction and wear**

Industrial applications are practically unlimited. NEVER-SEEZ is available in 8 oz. brush top cans, ¼ and 1 lb. applicator tip plastic squeeze bottles, 6 and 16 oz. aerosol spray containers, ¼, 1, and 5 lb. metal containers. Bulk containers to 425 lbs. also available.



Available from your local JOHN DEERE or INTERNATIONAL HARVESTER Dealer and other leading farm equipment dealers

NEVER-SEEZ®
COMPOUND CORP.
2912-16 S. 18th Ave.,
Broadview, IL 60153

Circle (31) on Reply Card

Breathing should be like laughing

Spontaneous. Effortless. For most of us, that's the way it is. We never think about the next breath.

For those with chronic lung diseases, even tying a shoelace or brushing teeth can be a frightening, breath-robbing struggle. That's why the Christmas Seal People® work so hard to prevent emphysema, asthma, chronic bronchitis and dozens of other crippling lung diseases. By helping smokers kick the habit. Persuading youngsters never to start. And fighting for clean air. Outside and in the workplace.

Give to Christmas Seals. It's a matter of life and breath.®

AMERICAN LUNG ASSOCIATION
The Christmas Seal People®

Space contributed by the publisher as a public service

PRODUCTION OF TRACTORS (In units)

Year	Wheel-type & Tracklaying	Wheel-type	Tracklaying	Garden Tractors† & Motor Tillers
1936-39 Avg.	222,161	197,445	24,716	9,095
1940-44 Avg.	249,336	217,874	31,463	12,987
1945-49 Avg.	442,648	404,230	38,419	126,121
1950	542,448	498,768	43,680	151,198
1951	617,060	567,446	49,614	177,169
1952	463,211	414,560	48,651	199,321
1953	442,247	390,385	51,862	245,609
1954*	285,159	245,755	39,404	191,235
1955	377,114	330,141	46,973	185,696
1956	272,265	214,654	57,611	200,997
1957	265,852	229,050	36,802	178,542
1958	265,495	241,269	24,226	227,073
1959	297,078	259,916	37,162	327,083
1960	178,500	152,187	26,313	416,455
1961	191,191	171,417	19,774	389,861
1962	207,281	188,101	19,180	421,833
1963	224,306	203,449	20,857	347,413
1964	240,579	213,221	27,358	416,486
1965	271,751	244,050	27,701	422,342
1966	299,114	270,687	28,427	507,606
1967	262,061	242,215	19,846	560,387
1968	236,023	213,199	22,824	583,265
1969	218,547	195,704	22,843	529,746
1970	191,679	171,603	20,076	498,372
1971	186,249	167,501	18,748	491,117
1972	218,213	196,988	21,225	662,583
1973	236,944	212,072	24,872	847,427
1974	233,825	210,074	23,751	1,287,026
1975	231,968	210,913	21,055	1,209,978
1976	213,154	193,724	19,430	858,727
1977	205,285	185,408	19,877	874,354
1978	197,343	175,205	22,138	918,866**
1979	223,849	204,228	19,621	NA

*Figures subsequent to 1954 exclude contractors' off-highway wheel type.
†Figures represent manufacturers' shipments subsequent to 1957. Production not available on comparable basis.
**Excludes walking-type tractors.
NA—Not Available.
Data: Current Industrial Reports: Series M35S and M35A. Bureau of the Census.

Keep abreast of new equipment introductions with...

I&T WHAT'S NEW Department

I&T provides a showcase for new equipment available for the dealer to use in broadening the scope of his dealership.

Subscribe today.

IMPLEMENT & TRACTOR P.O. Box 12901, Overland Park, KS 66212

Value of Shipments, 1974-1978

(In thousands of dollars)

I—Farm Machines and Equipment

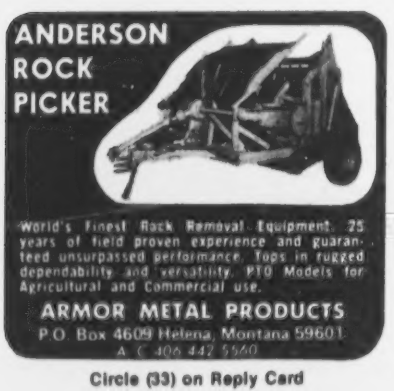
	1978	1977	1976	1975	1974
Planting, Seeding and Fertilizing Machinery	499,070	550,782	516,847	480,273	354,436
Harrows, Rollers, Pulverizers, Stalk Cutters	466,621	465,974	478,322	476,274	394,993
Plows	190,844	239,151	266,660	250,134	182,301
Harvesting Machinery	1,782,295	1,599,722	1,435,307	1,253,430	1,093,207
Haying Machinery	522,370	469,715	508,250	481,334	407,652
Farm Dairy Machines and Equipment	109,116	97,347	77,087	68,037	80,309
Sprayers and Dusters	168,679	161,709	158,848	155,752	139,287
Farm Elevators and Blowers	148,002	114,691	87,611	100,404	91,952
Cultivators and Weeders	189,439	140,079	224,013	227,440	162,786
Machines for Preparing Crops for Market or Use	356,311	308,932	233,656	262,379	254,921
Farm Poultry Equipment	148,465	127,867	100,472	70,023	76,154
Hog Equipment	76,310	54,481	59,793	37,574	45,480
Other Barn and Barnyard Equipment	219,171	188,150	160,580	137,250	167,521
Garden Tractors, Motor Tillers	686,375	574,702	586,278	553,269	561,250
Farm Wagons, Other Farm Transportation Equipment (1)	203,212	183,934	173,130	178,577	186,204
TOTALS	**5,766,280**	**5,277,236**	**5,066,854**	**4,732,150**	**4,198,453**

Source: U.S. Dept. of Commerce, Bureau of the Census, Current Industrial Reports, Farm Machinery and Equipment (MA-35A).

II—Wheel Tractors and Attachments

	1978	1977	1976	1975	1974
Wheel Tractors, Farm Type	2,264,398	2,424,139	2,235,111	2,099,501	1,509,806
Wheel Tractors, Non-Farm (2)	132,694	115,458	93,876	118,531	160,688
Attachments for Wheel Tractors, Farm and Non-Farm	36,527	34,780	37,472	35,040	35,937
Parts for Wheel Tractors, Farm and Non-Farm	263,312	310,398	279,637	222,575	238,970
TOTALS	**2,696,931**	**2,884,775**	**2,646,096**	**2,475,647**	**1,945,401**

(1) Data for 1976, 1977 and 1978 include operator cabs in attachments and parts for these items.
(2) Industrial Type, excluding tractor chassis, shipped as a part of front engine mount, integral design tractor shovel loader/backhoes.
Source: U.S. Dept. of Commerce, Bureau of the Census, Current Industrial Reports, Tractors, Except Garden Tractors (M35S).


ANDERSON
ROCK
PICKER
World's Finest Rock Removal Equipment. 25 years of field proven experience and guaranteed unsurpassed performance. Tops in rugged dependability and versatility. PTO Models for Agricultural and Commercial use.
ARMOR METAL PRODUCTS
P.O. Box 4609 Helena, Montana 59601
A C 406 442 5560

Circle (33) on Reply Card

FOR MORE INFORMATION
ON PRODUCTS ADVERTISED OR DESCRIBED IN THIS PUBLICATION, USE

I&T's Handy Reply Card